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The American Dietetic Association—1957-58

President's Report to Members[1]

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THE FORTY-FIRST year of the work of this Association is now completed. It is not only traditional but also right and just that the elected officers should render an accounting to you, the members, of their stewardship. What kind of an achievement balance sheet can we present to you? What can be placed on the credit side, what must be shown on the debit side, and what do we have to carry forward?

First, let me remind you that this is the report of some of the major activities for the year and what has been achieved is not the work of an individual; it is the work of the Executive Board—the five elected officers working as a team, and most ably and efficiently supported by the Headquarters staff. This latter group works faithfully year after year seeing that the policies, business, and activities of the Association are properly conducted; and skillfully adjust themselves each year to a different group of Board members.

Second, let me remind you that we as a people have just completed Year One of the Space Age. This has already brought dramatic changes in the thinking and the way of life of the American people, but the big changes are just beginning. What does the Space Age mean in the life of our profession? We have worked on sound principles in the past, but today—and more so for tomorrow—we will need to make changes. The Board has been acutely aware of the need for change in these changing times.

The Credit Side

Some of the items that can be placed on the credit side for this past year in our Association follow.

We have a steadily growing membership which, on September 30, totaled 13,287 and with fine leadership in each state association. Reports from the states amply demonstrate this leadership, but too often we are failing to develop leadership among the younger members. Opportunity must be provided for them to know the Association work, to exercise judgment, and to make decisions so that the work at the local, state, and national levels may be fully provided with leaders in the years ahead.

There has been an increasing exchange of ideas and information through all the channels of state and regional delegates, state officers, and Coordinating Cabinet. The American Dietetic Association *is* the members and not an office or a group of officers. The cry of the three musketeers of "one for all, and all for one" is just as true for our Association.

A good grasp of the real meaning, as well as means, of communications is essential to this working together. The Association is represented on the Steering Committee of the Home Economics Section of the National Project in Agricultural Communications (NPAC) and has four members on the working committees. June Bricker has contributed articles on communication to each issue of the *Courier* this year. In February, a Communications Workshop was sponsored by our Association and made possible through the generous cooperation of NPAC and its staff. The workshop, held at Hinsdale, Illinois, lasted one week and was attended by some thirty members of the Coordinating Cabinet, presidents from adjoining state dietetic associations, Headquarters staff, and chairmen of some boards and standing committees. The success of this workshop has been evidenced already in a number of state programs on communications and a pre-convention workshop for internship directors at this Philadelphia meeting.

COMMITTEE WORK

Committee work is necessarily slow. Especially is this true when members are scattered to the far corners of this country, must carry on their work by correspondence, and rarely if ever meet face to face. There are some who think it would be so much easier if one person would outline the whole program or set down all the ideas and hand it to the members. But that is not the way that the maximum in thinking, in give-and-take of ideas, and in final shaping of decisions is achieved. This Association has always been strong in committee work.

The accomplishment of the committee chairmen and the devoted members who serve with them is an amazing record of long hours and midnight oil, and

[1]Presented in Philadelphia at the business meeting of members of The American Dietetic Association on October 21, 1958.

of sacrifices of personal leisure to further the goals and strengthen the profession. This truly is a self-sustaining organization. No committee has been appointed unless it had a worth-while purpose. The work of only a few can be mentioned here, but all the committees deserve our gratitude. They all add markedly to the credit side of our ledger.

The standing committees have carried on faithfully and effectively, and special committees appointed to meet the needs of the times have worked most diligently throughout the year.

The Constitution Committee has done much work on the clarification of wording and the improvement of readability of the constitution of the Association. There are now some sixty or more amendments of this type to be made. However, with the acceptance of the report of the Committee to Study Broadening of A.D.A. Membership, there are some major constitutional changes to be made. It therefore seems desirable to rewrite the Constitution and call for a vote on its acceptance rather than to make so many amendments.

The Committee to Study Broadening of A.D.A. Membership has distinguished itself by vision, courage to propose radical changes, hours of correspondence, hard thinking and study, questionnaires, and visits and personal interviews with college personnel and heads of departments. The final report, after two years of hard study and of many changes and redrafting, has been presented to the House of Delegates. It offers new roads to membership in the Association, through more breadth and greater depth in more areas related to the ever-enlarging field of dietetics. This has been achieved without any lowering of standards which should be required for membership in such a profession as ours. These new requirements, as developed by the Committee, will be published in full in the JOURNAL and will be effective as soon as constitutional changes are made.

A new committee was appointed to "explore ways and means of encouraging advanced study by A.D.A. members." The expert of today is the has-been of tomorrow unless he is continuously studying. Subject matter expands rapidly, techniques and procedures, types of responsibilities, equipment, products, and the scope and demands of each professional position change more rapidly than ever before. It appears that our profession has been lagging behind allied professions in the number of members who have been doing advanced study to keep up with the times, and to gain the master's and the doctoral degrees. "Grow or die" is not just the law of the jungle—it holds true for the professional world. The committee members working on this problem have made excellent progress and have been energetic enough to prepare an exhibit for this meeting, which provides a wealth of information, and to arrange a conference time during the convention to help any who are interested in graduate study.

Another new committee was created to study the situation of hospital and institution food service where it is not under the direction of a qualified dietitian. There have been many questions about this problem. First, we must study and find the facts and the underlying causes. With the facts in hand, we can evaluate and make decisions.

Several joint committees with allied professions are active; important among these is one with the American Hospital Association and one with the National League for Nursing. The latter committee has been working for the improvement of nutrition education in nursing programs and to promote interorganization understanding and cooperation. Effectiveness has been increased by the formation of joint committees of state dietetic associations and nursing groups in twenty-eight states.

Two members of the Executive Board recently had the privilege of attending a conference called by the American Home Economics Association to examine the philosophy, goals, and future plans for home economics. Dietitians usually start out in home economics. This we sometimes overlook. The fullest cooperation of every individual A.D.A. member with local and national home economics work will not only be to our professional advantage but will also help to promote a sound home economics program.

SECTION ACTIVITIES

The section activities have been a mainstay in our program of professional activities. A marked change was made this year on the recommendation of former section chairmen. This year the responsibility has been on the chairmen to help to stimulate interest, guide projects, and serve as consultants. However, the challenge has been to the members because section activity is expected to be initiated at the state level; this is as it should be in a large, mature profession.

HEADQUARTERS OFFICE

The Headquarters office in Chicago is the center for many Association activities. Following a committee study of equipment and procedures, along with a job analysis, a number of changes have been made leading to improved working conditions through air conditioning and rental of more floor space; protection of membership records by microfilming; and efficiency through purchase of new office machines.

The position of Continuing Education Services Director was established to help members and local and state groups find and use the resources within their own area for workshops, seminars, institutes, and other ways of providing for professional education and advancement. Dr. Bruce Kirk joined the Headquarters staff in this position in August. He brings to this work a rich background of experience

in education and psychology and a keen interest in dietetics.

Together with the American Hospital Association, we have sponsored Institutes in Dallas, Chicago, New York, and Kansas City, Missouri. Some of our staff and members have assisted in these workshops and the members who have attended have had the benefit of the newest in techniques and information of direct help to them in their professional work. Our goal should be many institutes and workshops of varying kinds, with every member attending at least one each year.

Career Film

This will be known as "the film year." A career guidance film titled "View from the Mountain" has been produced and has its première showing at this meeting. The film, which is a great event for us, has been made possible through a generous gift from the H. J. Heinz Company. This company, cooperating with an A.D.A. committee and aided by the creative ability of Thelma Pollen, our own Public Relations Director, has given us a colorful story of the varied and satisfying career opportunities in dietetics.

The film will serve its purpose only if we take the responsibility of seeing that it is shown in every school, young people's organization, and parents' group throughout the country. Prints of the film are available for rental or purchase. It is up to us to make sure that the film is seen by girls and boys and their parents everywhere.

HISTORY OF THE ASSOCIATION

The film is our future, but this bright future grows from an inspiring history. Understanding of the present and sound planning ahead can be achieved if there is knowledge of the past. This is equally true for a nation or an organization. The manuscript of the history of The American Dietetic Association has now been completed by Mary I. Barber, and it makes exciting and fascinating reading. Not only is it a history of the development of our profession; it is rich in human interest and side lights on the history of nutrition and diet therapy. We hope that a publisher will soon be found and that the book can be in your hands before long.

The Debit Side

The debit side must be looked at squarely and objectively. To pretend there is nothing to look at on that side is foolish and irrational; it also means we miss the opportunity to see how we must chart our plans for the future and where we need to place our efforts.

The complete financial statement comes to you from the treasurer. The Board must pass on to you its feeling of concern. The last fiscal year ended in the red despite our efforts. The projected budget for this year is a deficit one. Efforts are being made to improve efficiency and cut costs; however, it is our responsibility to tell you that we are facing the possibility of either reducing the services to members or increasing dues.

On the debit side we see a shortage of qualified dietitians to fill the vacancies in numerous hospitals and in the ever widening sphere of opportunities open to a dietitian. We see internships not filled. We see home economics departments with fewer students than in the past electing to major in dietetics. Studies show that our profession is not known in small towns and rural areas; that the program and career opportunities are not adequately understood in colleges; that the needs and responsibilities of the dietitian and her department are not properly understood or recognized in many hospitals. We find greater competition today for the abilities and interests of young men and women; this is true not only in the sciences but in all kinds of new career opportunities.

The number of food faddists, quacks, and those who make high personal profit through the sale of vitamin concentrates and other special preparations seems to be increasing. This challenges us to more individual effort to make sound nutritional information available to all people and also to join forces with other allied organizations to combat misinformation.

We are grateful to those members, state associations, and industries who have generously helped our profession with grants, awards, and scholarships, but we still need much more financial help for students, interns, and members.

We see change going on all around us in education, in needs, in interests, and in goals and values of individuals and groups. We have a serious debit account for each member who fails to be alert to the changing times and who lacks the flexibility to adjust to the new demands.

United efforts can wipe out these debit items any time we elect to do so. You will recall the phrase made internationally famous in 1935 by Stanley Bruce, the Australian delegate to the League of Nations, "a marriage of health and agriculture." This phrase must be adapted to our needs and we must work for "a marriage of John Q. Public and Joan Q. Dietitian." Joan is each one of us, and we can inform the public of our profession and what it means.

What Do We Carry Forward?

That completes a quick look at the credit and debit side of our year's ledger. What do we carry forward for the future? We have a rich heritage of achievement and continuous progress for which we thank

our founders, leaders, officers, and committee workers through the years. We have a solid background of research, books and other publications, an outstanding JOURNAL, well defined standards of professional education, strong state associations, high potential leadership, and members accustomed to give almost endlessly of their time for the benefit of the profession. We are young in spirit and flexible in our thinking—what other assets do we need for the future?

And we have the vision . . .

Like one that stands upon a promontory
And spies a far off shore where he would tread
Wishing his foot were equal to his eye[2].

Our steps can equal our vision. Man's history shows that he can achieve what he aims for. "To reach for the moon" is no longer a way of describing something as a fantastic or impossible idea. It is fast becoming a scientific fact that man can reach the moon. And we in dietetics can reach any goal we set —if we want to work for it.

[2]Shakespeare's *King Henry VI, Part III, Act I, Sc. 2, Line 135.*

Radioactivity in Today's Foods

A two-year survey of radioactive residues in foods has just been reported by Edwin P. Laug and Wendell C. Wallace of the Food and Drug Administration in a paper delivered before the Association of Official Agricultural Chemists in Washington on October 15. Compared with food samples produced prior to 1945, this survey indicates that the great majority of post-1945 food samples do not carry significant burdens of radioactivity. Notable exceptions were certain sea foods, dairy products, and tea.

More than a thousand pre-1945 food samples were submitted to the Food and Drug Administration in January 1957. These foods came from private homes and the food industry, even from caches of the Shackleton and Byrd Antarctica expeditions dating back to 1906. An equal number of post-1945 samples were collected, mostly from retail outlets. The following categories were examined for total radioactivity: vegetables, fruits, fruit juices, sea foods, dairy products, bread, meat products, wheat, sugars, jams and jellies, cocoa and cocoa beans, and tea. Nearly half of the samples analyzed were fruits and vegetables.

No significant increase in total radioactivity was found in post-1945 samples of: potatoes, corn, beans, peas, beets and turnips, carrots, spinach, and miscellaneous vegetables. The same was true of: pears, cherries, peaches, apricots, plums, tomatoes and tomato products, berries, fruit juices, and miscellaneous fruits. Other products which revealed no increase in total radioactivity included: meat products, wheat, sugar, and jams. In bread, where there were unfortunately no pre-1945 samples available for comparison, there was no evidence of total radioactivity that could not be accounted for by the potassium content.

A trend toward higher radioactivity was found in fifty-one samples of miscellaneous fish varieties and thirty-two samples of oysters and clams, half of which were canned before 1945. Individual shellfish values showed a significant rate of increase since 1944. Other types of sea food, such as shrimp, lobster, and crabs, showed no trend whatsoever. In cocoa and cocoa beans, however, the radioactive content was greater than could be accounted for by potassium.

Analyses of dairy products, consisting chiefly of fresh fluid milk, evaporated milk, milk powder, and cheese, showed a statistically significant increase in total radioactivity since 1945.

The largest increase, though, was noted in tea. Pre-1945 samples of tea showed no radioactivity on the average in excess of that accountable to potassium, whereas post-1945 samples—chiefly from 1956 and 1957 harvests—showed radioactivity that averaged about thirty times higher, with six individual samples ranging as high as 109 and 135 times greater. In terms of micro micro curies per kilogram of tea leaves, the average value for the seventy-eight post-1945 samples was 13,500. Although no specific isotopes were identified, the authors assume that at least 1 per cent of this activity could potentially be strontium-90. It could, therefore, be possible that many of these tea samples contained strontium-90 in excess of the present tolerance of 80 micro micro curies per kilogram. Analyses of strong tea brews revealed, however, that only about 17 per cent of the radioactivity was extracted. It can, thus, be concluded that the beverage as commonly consumed would not contain over-tolerance amounts of strontium-90.

The Changing Face of America[1]

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SEVERAL BASIC assumptions underlie my approach to this discussion of "The Changing Face of America." (a) Dietitians do not function in a social vacuum but in and for a given society. (b) Dietetics should be directed toward the needs of the group, the community, and the society fully as much as toward the individual. (c) Individuals must continually work out adjustments to the culture and social organization in which they live. This is a matter of accommodating individualized drives and goals to the expectations, values, regulations, and sanctions which society has developed to control human behavior. (d) Dietetics as a means of influencing human behavior must be considered in relation to other forms of socialization and social control in a society.

Any analysis of new social patterns in the United States must begin with demographic changes, since the population base is fundamental to the understanding of any culture and society. Patterns of stratification, including social class, caste, and social mobility, will then be discussed. Next we shall consider our changing value systems, the mainsprings of social action. Shifting the focus from culture to society, we shall look at change in patterns of community organization, including fluctuating institutional roles and the place of hospitals, public health, schools, and colleges in the community. Finally, we shall have something to say about the changing place of the individual in the larger society.

Demographic Changes

From every point of view the most startling recent change in our population is also the most generally recognized. The increasing number of children currently reaching school age each year and expected soon in the colleges has been widely publicized. While it is impossible to predict how long the birth rate will continue at its present level, the results of the upswing in fertility during the past fifteen years and the continuing successful lowering of the infant death rate are already with us. Also, there has been a steadily increasing proportion of adolescents who continue through high school and on to college. Without providing statistics, these are the basic demographic facts which have resulted in an unprecedented pressure of numbers on existing educational facilities. This pressure has tended to be greater in areas of the country which have been less well developed economically and which, therefore, are having most difficulty in supporting education. Nutrition education in the schools, therefore, will be reaching increasing numbers and will require more people trained in dietetics.

Whereas we cannot predict with certainty whether the birth rate will remain at its present level or resume the decline which has characterized it for many generations, we can more confidently forecast a large increase in the proportion of persons over sixty-five years of age. From about 3 per cent in this category in 1850, the proportion increased to about 8 per cent in 1950, with predictions of 11 per cent by 1975 and 13 per cent by the year 2000 (2). The psychologic, social, and leisure needs of aging persons present a challenge to adult education. Also, the nutritional needs of our elder citizens should receive increased attention.

Population Mobility

Turning now to the dynamics of population, a generalization which need not be defended is that the population of the United States has always been characterized by high mobility. In our history we have had the long-continuing westward movement, the great streams of immigrants from Europe, and the continual farm to city movement. Only the second of these factors has been of relatively little significance during the past three decades. Although the stereotyped conditions of the frontier are no longer with us, the western regions continue to draw people from the longer settled parts

[1]Presented at the 40th Annual Meeting of The American Dietetic Association in Miami, on October 23, 1957. This paper is taken in the main from the author's article, "Impact of New Social Patterns upon Education," published in the March 1956 issue of *Teachers College Record* (1).

of the country. Except in the depth of the depression of the 1930's, the net movement of population from rural areas to cities has continued unabated. From 1920 to 1946, for example, 16 million more people left farms and went to urban places than migrated to farms (3).

It is as though a giant egg beater had been at work in the nation's population. Families and single individuals have been spewed in all directions, with the main streams being from country to city, from South to North, and from East to Far West.

In addition to this relatively long-range migration, population in both urban and non-urban areas has been quite mobile. Movement of families from farm to farm has been frequent, especially in the South. Movement from dwelling to dwelling in cities has been high, with the average period of residence in a dwelling being not more than several years. Truly a high proportion of the American people are not anchored to hearth and home.

One of the most significant results of this mobility has been the rapid urbanization of American society from 1790, when the population was only 5 per cent urban, to today when it is about two-thirds urban. Even the so-called rural South is now almost 50 per cent urban. We may count on the United States becoming even more highly urbanized in the next several decades. Of course, there are wide variations in the degree to which cities predominate; for instance, from 92 per cent urban in Rhode Island to 20 per cent urban in Mississippi.

Sociologically speaking, more of the country's population is essentially urban than is so classified by the Census. The 21 per cent who are called "rural non-farm" generally have the social and economic characteristics of urban populations. Furthermore, improvements in transportation and communication have brought almost all rural people relatively close to urban centers and ways of life.

In 1820, 72 per cent of the labor force were agricultural workers; in 1900, this figure was down to 38 per cent; and by 1950, it was less than 12 per cent[2]. This decline in the proportion of the American people engaged in agriculture may be expected to continue slowly during the next several decades.

Along with this trend of population from country to city, with the resultant urbanization, has gone a counter movement. The rapid growth of suburban communities around the larger cities reflects a striving by many families to leave the heart of the cities, perhaps to have some of the advantages of country living. However, these suburbs are essentially urban rather than rural. The rapid growth of the satellite towns, often without adequate planning, has sometimes resulted in social disorganization and social strain. Not infrequently there is a lack of essential services for the rapidly expanding population in these urban areas. The homogeneity of the suburbs in family composition, social strata, and the like affords a rather unique social environment in which the dietitian works.

[2]From the U.S. Bureau of the Census.

Social Stratification in Flux

Through patterns of social stratification, a society distributes rights and privileges, duties and obligations unequally among its presumed "inferior" and "superior" grades, not so much on the basis of personal ability as on other grounds. Most important among these other grounds which determine one's class position in American society appear to be wealth, occupation, income, residential location, housing, family background, and adherence to behavior norms expected in a given class (4).

Regardless of which particular theory of social class we may accept or which of several research methods we may employ in field study, there is little doubt that the study of any American community will reveal definite patterns of stratification. These prestige structures are related to other dimensions of community, especially institutions, value systems, and ecology.

For our present purpose we are particularly concerned with whether there have been recent changes in these patterns of stratification. Here our indicator must be rates of social mobility. In this connection, fluidity and flexibility, as well as variability in time and space, seem to be the hallmarks of social stratification in America.

Paucity of data makes it difficult to reach sound generalizations concerning rates of social mobility (5). Generally, we must fall back on information concerning occupational mobility between generations. Thus, we know that, in the United States, about 30 per cent of sons enter the occupations of their fathers. Of those who leave their father's occupational group, few move very far up or down in the occupational hierachy. Furthermore, there has been and continues to be more upward than downward movement of sons in relation to their father's occupation. When it comes to movement between manual and non-manual occupations—that is, between blue-collar and white-collar jobs—there seems to be the greatest difficulty. Yet around a quarter to a third of sons on each side of this dividing line are able to cross the line.

When we look at occupational change by the same individual during his life career, we find rather rapid occupational mobility with four or five changes during a lifetime not unusual. About half of these changes by individuals, however, represent no vertical mobility. A recent study of the two highest status groups of a middle-size city in upstate New York revealed that 44 per cent of the highest class has been upwardly mobile, while 50 per cent of the next highest class has been either upwardly or down-

wardly mobile, mostly upward. It is significant that most of these individuals who had been occupationally mobile were newcomers to the community, indicating the close relationship between the high rate of geographical and occupational mobility (6).

This net upward mobility in terms of occupation is in line with basic tenets of the American "dream" of almost unlimited opportunity for every individual. However, there are certain economic and demographic explanations which are probably of more significance. The last fifty to one hundred years have seen a great expansion in the American economy. Along with expansion have come certain basic changes in the economy which have provided increasing numbers of opportunities on higher rungs of the occupational ladder. For example, between 1910 and 1950 skilled workers increased from 12 to 14 per cent of the American working force, workers in business from 7 to 9 per cent, people in the professions from 4 to 9 per cent, and white-collar workers from 10 to 19 per cent. During this same time, there were decreases among the ranks of unskilled labor and agricultural workers.

Streams of immigrants to the United States from 1880 to 1920 brought in more people from peasant and working-class families than from any other group. As they took jobs in the American economy and shifted from one job to another, they often were able to achieve upward occupational mobility. Furthermore, the birth rate among families in the lower occupational groups tended to be higher than among families with higher socio-economic status. This created something of a vacuum and made way for movement upward by those below.

Role of Education

During this period, also, universal public education became a reality. Education has always served as an effective elevator for social mobility. In Great Britain, the socio-economic pyramid has been somewhat more flattened, with less extremes from bottom to top than in this country. This is so, notwithstanding some vestiges of nobility. Public social policy of the past twenty years has considerably influenced British patterns of social stratification. One aspect of this policy may be seen in education, where only about 75,000 places are available in the colleges and universities. With selection being made at the age of eleven or twelve, a small percentage of adolescents go to "grammar school," which is roughly equivalent to the college preparatory curriculum in our secondary schools, though somewhat more advanced. Thus, definite restrictions on the proportion of the population which can get a college education has a bearing on the British patterns of social stratification (7). A recent study for the National Science Foundation found that in 1955 there were between 60,000 and 100,000 high school graduates of high level ability in the United States who, for financial reasons, were not in college. Apparently here, also, public policy with reference to higher education is related to social stratification.

Meager as it is, available evidence does not indicate that class lines are becoming more rigid in the United States. The depression of the 1930's and subsequent changes in public social policy have resulted in a tendency toward some leveling of the social class pyramid in this country. Public education and mass media of communication have aided in wide diffusion of correct speech, manners, dress, and the like. Although definite patterns of social stratification exist and can be identified in any American community, there does not seem to be as keen consciousness of social class here as in some European countries. Perhaps the greatest class consciousness is found in our small upper class. Of course, another major economic depression would probably tend to make class lines more rigid and to increase class antagonisms.

Social Caste and Minorities

To conclude this look at social stratification in flux, we must give brief attention to social caste, by which we mean the hereditary placing of people into presumed "superior" and "inferior" social statuses from which theoretically they cannot move. Racial minority groups in this country are all too frequently in this situation; witness the Negro throughout America and especially in the South, the Japanese on the West Coast, and the American Indians in scattered spots across the country. Life chances and access to jobs, income, education, and residential areas are unequally available to members of these groups. Supreme Court decisions in the present generation have been hacking away at these vestiges of caste: decisions relative to peonage, the franchise, restrictive covenants for residential areas, jury service, segregation on public carriers, admission to graduate and professional education, and, finally and most dramatically, segregation in the public schools. Legislation and executive action have also played their parts in the creation of new agencies and commissions to further civil rights. Of no little consequence is the fact that discrimination has been eliminated from the United States armed forces.

As has been so often pointed out, there are many inconsistencies between the values placed on democracy and freedom in this country on the one hand and our perpetuation of certain caste-like practices on the other. This results in considerable personal tension and social stress. Changes in legal interpretation and in public opinion concerning these matters are of great significance for all professional workers. Extremists on either side do more harm than good.

Changing Value Systems

We take values to mean affectively charged criteria by which goals of human behavior are chosen. Values, then, are preferential interests which people take for granted, which they often hold sacred and inviolable, and for which they sometimes will fight. Values are the core of social institutions, the criteria and mainsprings of behavior and social action which are internalized for the individual and are binding on his personality.

A host of writers have sought to identify and interpret the basic values of American society. Only limited agreement is found among them as to which are the more nearly universal values. Rather than attempt our own exposition of what these values seem to be, we would emphasize that values do change, albeit slowly, and that they vary from region to region and from community to community. This fact is of more than passing significance for the field of nutrition and dietetics. Furthermore, the extent to which the values of a given people are consistent and integrated is of particular concern.

Leighton has pointed out (8) that communities vary in the strength of their resistance to change in values. He identifies three factors which tend to impede this change: homogeneity in the population, consistency between the value systems, and geographic isolation of the community. In most American communities there has been considerable weakening in all three of these factors during the present generation. Perhaps more rapid change in values can be predicted in the future.

Relative to consistency and integration of values, social science has not yet developed concepts and techniques sufficiently precise to provide definitive evidence. While Mannheim, Frank, and others have attempted to make the case for societal disintegration in western countries, Williams holds (3) that there is more agreement on value systems in American society than is commonly assumed. According to Frank (9), "Our culture has no unanimity of individual or social aims, no generally accepted sanctions, and no common patterns of ideas or conduct." Mannheim has stated it this way (10): "Thus there is nothing in our lives, not even on the level of basic habits such as food, manners, behavior about which our views are not at variance . . . It is definitely not good to live in a society whose norms are unsettled and develop in an unsteady way." He continues, ". . . the failure of Great Society [is] to re-establish on a larger scale the methods of value adjustment, value assimilation, value reconciliation, and value standardization which were always active in small communities, and which, owing to the limited size of those communities, could do their work spontaneously . . . Under the changed conditions of Great Society, however, lack of conscious direction of educational issues leads to what has been called 'Education for Chaos.' . . . This guidance can only be given if the integration of the community goes much deeper than is the case at this moment when the forces of disintegration have done their best to undermine tacit consensus and to over-emphasize differences existing in our midst." Mannheim contrasts this situation with that in Fascist societies, which he abhors, in which value systems are deliberately simplified and molded so as to achieve societal integration. He holds that there must be a middle way between totalitarian regimentation and the complete distintegration of the value systems through extreme laissez-faire policies.

Lack of consistency, ferment, and signs of disintegration in the values of American society may be due in part to the social changes previously discussed: large scale immigration, internal migration between regions, migration from country to city, rapid population growth, considerable vertical mobility, and inconsistencies between caste-like practice and professed democratic ideology.

Williams has summarized his estimate of the more significant current changes in the values in American society as follows (3): "A decreased emphasis upon religious-ethical principles . . . increased concern with security . . . [conflicting trends toward] totalistic nationalism [and] international collaboration . . . a revived accent upon durable family life . . . continued strong emphasis upon humanitarianism, ethical equality, some aspects of democracy . . . and certain other elements of the American Creed."

These changing values and the possible lack of integration in the value systems constitute important elements in the environment in which your work in dietetics takes shape, as well as influence the goals and responsibilities of your profession.

New Patterns of Community Organization

The local community is where people are born, where they live their lives, where they die. It is also where schools, hospitals, public health, industry, and other agencies function along with many other institutions concerned with dietetics. Though changing social patterns in American society can be described in broad terms, as has been done here, it is in some 10,000 to 12,000 local communities that these changes actually occur. Here is the social fabric, the social milieu, in which dietitians function in their professional roles.

American communities have witnessed changing institutional roles during the past half century. Government has assumed increasing functions. New institutions have developed. Hospitals have assumed additional responsibilities.

Today even the small community is characterized

by a complex institutional structure. The school and the hospital take their places along with many other agencies established to meet the needs of people. Departments of public health and public welfare are almost universal today. Publicly supported adult education programs are increasing in number. Cities of medium size now recognize that city planning is not a luxury. The trend has been for private agencies in all these fields also to increase, both in number and in scope of operation.

Then, too, there is the multitude of voluntary organized groups so characteristic of American communities. De Tocqueville more than a hundred years ago and the Beards more recently have noted that Americans are great "joiners." Although recent studies have shown that only 40 to 60 per cent of the residents of a community are usually active in these organized groups, their number and variety are a source of wonderment to visitors from abroad. A town of 6,000 population may have from 40 to 60 of these groups, exclusive of churches. A city of 250,000 will have from 500 to 700 fraternal, patriotic, veterans, professional, civic, economic, political, cultural, and social groups.

All of these agencies and organized groups in a given community are in competition for the time of people, for financial support, for leadership, for status in the public eye, for a recognized niche in the value systems of the people, and often for monopoly of a particular kind of service or activity. Sometimes this competition gives way to conflict, with jealousy and bickering. There is a need, then, for community coordination and planning. Here is an opportunity for the school, the college, the hospital, and the adult education agency to seek their appropriate places in the community, neither to sell short their broad educational functions nor to assume that they can "go it alone" without working harmoniously with other agencies in a joint effort to meet all the needs of all the people.

The Place of the Individual

The individual in any society faces the necessity of charting his own course of development somewhere between putty-like conformity to prescribed cultural norms and legal prescriptions on the one hand and autonomous personal action on the other (11). In American society, the pressure for conformity is great, though varying from region to region, from community to community, and among different social strata and groups. Although these pressures are certainly real, our analysis has shown a culture and social structure in considerable ferment and change. The many new social patterns provide a maze of multiple statuses and roles for each individual and often involve frustrating conflict. His probable mobility adds to the complexities facing him. Changing values in the society make it difficult for him to keep his social moorings. The culture and socal structure often do not provide him with sufficiently clear guidelines and high predictability in interpersonal relations. The social situation is often not clearly defined for him. Social adjustment too frequently proves difficult. According to Williams (3), "If such disillusion of the social pattern involves values central to the person's self-identity, the shattering of stable social expectations seems catastrophic for personality integration." *Anomie* is the term Durkheim has given to this sort of situation, in which so many find themselves in American society today. Truly the individual in no way is isolated from the culture and structure of his society.

If individuals, in the course of their personality development, frequently find themselves on shifting sand, this is of considerable concern to those in the professions. If you as dietitians and nutritionists are to understand and work effectively with your raw material—people—you must give attention to these problems of social adjustment on the one hand and to the development of individuality and personal integrity on the other. There is also the responsibility of all who are concerned with education for helping to mold new social patterns within which individuals of the future may work out their adjustment and integrity with higher chances of success. As professional workers in dietetics, you have an important part to play in this changing face of America.

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Trends in Maternal and Child Health[1]

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THE LAST decade has shown remarkable changes in the lives of mothers and children. Never before has it been as safe for a mother to have a baby as now. The dramatic reduction in maternal deaths (85 per cent since 1933) did not come about by chance but has been the result of hard work, foresight and planning on the part of countless physicians, nurses, nutritionists, dietitians, research and public health workers, and at the hands of many agencies. The leading causes of maternal deaths then, as now, were infection, hemorrhage, and toxemia. Higher standards of living with improved nutrition, better trained medical and ancillary personnel, new drugs, and more extensive use of hospitals with improved facilities have brought this remarkable decrease in the number of maternal deaths.

New Concept of Maternal Care

Maternal care, which is one of the most important phases of maternal and child health, in the older and narrower sense consisted of the care of the pregnant woman, her delivery, and her immediate postpartum care. The newer trend of maternal care has a much broader concept. It goes back to childhood and infancy and even the period before her own birth. It is now recognized that the entire life-span up to pregnancy, as well as during pregnancy, is of great importance. The nutritional and health status of the potential parent prior to conception has much influence on both the mother and her offspring. Children who are under continuous medical supervision, growing normally and developing into healthy well-adjusted adults are potentially good parents. The dietitian, teacher, or school lunch operator who motivates the teen-age girl to improve her food habits; the dietitian who teaches the antenatal or postpartum patient to eat the foods she needs is contributing to maternal and child health for the present generation, and for future generations as well.

[1]Presented at the 40th Annual Meeting of the American Dietetic Association in Miami, on October 23, 1957.

I am sure you are aware of many studies that have been and are still being conducted in relation to the effect of nutrition on pregnancy and the condition of the infant at birth. Among the most recent are studies of the influence of emotional stress on metabolism, especially on that of calcium and protein.

Classes for parents and expectant parents are not a new activity in maternal and child health, but additional emphasis has been given to this service. The defense program necessitating mobility of young couples, frequent travel, and absence from their original homes and culture has added impetus and need for such classes and discussions. The classes serve as a means of preparation for parenthood and childbirth, both physically and emotionally, and help young people develop the right approach toward family life. These classes are sometimes promoted by hospital staffs, public health personnel, and others, and they may be a means of coordinating the work of these groups, thereby providing better service to parents.

About 95 per cent of all deliveries now occur in hospitals. This may not mean that all mothers are receiving early and better antenatal care; many patients present themselves to the hospital in labor, having had little or no previous medical supervision. Educational programs for early care must be continued. The hospital stay now is usually shorter than formerly, making follow-up service to the family in the home important. In some areas, there is a coordinated service by the hospital staff and health agencies so that when patients leave the hospital, a nurse visits the mother at home and gives her instructions and assurance in caring for herself and her newborn infant. This is particularly true where there is a premature baby or other condition needing specialized care.

Hospital Standards

The increased number of hospital deliveries has made it all the more important that high standards be developed. Most states have licensing laws and

minimum standards for hospital construction and maintenance. In some states, the health department employs a team consisting of a physician, nurse, dietitian, sanitary engineer, and hospital administrator all of whom work with hospitals in carrying out the licensing laws and also in improving services for patients both physically and emotionally.

The American Academy of Pediatrics has developed a manual, *Standards and Recommendations for Hospital Care of Newborn Infants—Full-Term and Premature* (1), which is used in many nurseries. It is now developing a second manual on the hospital care of children.

The Joint Committee on Standards of the American Association for Maternal and Infant Health, composed of representatives from a number of interested organizations, is preparing a guide on maternity care in hospitals. Mary Reeves, Nutritionist of the U.S. Children's Bureau in Chicago, represents The American Dietetic Association on the executive board of this Association.

In most states, maternal welfare committees are in operation. These committees study in an unbiased and confidential manner every maternal death for the purpose of eliminating avoidable causes in the future. The information is used to promote better medical care and improved hospital facilities and practices.

Infant Care

Great strides have been made in the preservation of infant and child life after the age of one week. The tremendous saving of these infants has been brought about to a great extent by the application of a number of public health techniques developed by standard epidemiologic approach. These include protection of water, milk, and other foods, and inoculations, especially against whooping cough, diptheria, tetanus, and poliomyelitis. Early diagnosis of illness, development of new drugs, and prompt treatment have also contributed greatly to the saving of these lives.

There has, however, been little reduction in the death rate of the infants before one week of age, as well as little progress in determining the causes. More infants now die in the United States during the first three days of life than during the other 362 days of the first year. Deaths of viable fetus and newborn make up about 10 per cent of all deaths in the United States from all causes. Only deaths from heart disease, cancer, and cerebral hemorrhage exceed the number of "perinatal" deaths, that is from the twentieth week of gestation through the sixth day of life. Added to this human wastage is the great number of early fetal losses, a conservative estimate being in excess of half a million annually.

The causes of this huge perinatal and fetal wastage is of great concern. Studies with a multidisciplinary approach dealing not only with pathology of the fetus and newborn, but reviewing the statistical, immunologic, genetic, biochemical, viral, and clinical aspects of the conditions are being made. It is expected that results evolving from these studies will be of value to the community as well as to the hospitals in developing and maintaining a high level of maternal and neonatal care, thereby reducing this tremendous wastage.

Prenatal Programs

In an effort to reduce the incidence of prematurity, in which category the largest number of neonatal deaths falls, states are giving greater attention to prenatal care, particularly to the mothers with complications of pregnancy and to the prematernal condition of potential parents. Maternal care and infant care are so interrelated that it is difficult to separate them.

Special projects for premature babies have demonstrated how the lives of these underdeveloped infants weighing less than 2500 gm. can be saved. Retrolental fibroplasia, which causes blindness in premature infants, was not associated with the administration of oxygen until 1952. Since that time, information has been disseminated advising against the use of oxygen in nurseries except as a lifesaving measure.

Mental Health Development in Children

A notable event—the Mid-Century White House Conference on Children and Youth—attended by nearly six thousand people, gave long overdue impetus to the development of healthy personalities in children. Child-health conferences have now broadened their scope to include in addition to the physical, the mental health aspects of child growth and development. Individual child development and parent-child relationships are discussed and early social and emotional difficulties are often corrected, thereby preventing more serious problems later.

Some research is being done on the influence of maternal deprivation which is a general term concerning a number of different situations. A child is deprived, even though living at home, if his mother is unable to give him the loving care small children need—just as is the child who is separated from his family. Increasing employment of young mothers, broken homes, and illegitimate births are necessitating the care of more and more children away from their homes. Welfare, educational, and health agencies all have joint responsibility and in many states are planning and developing standards and regulations for group day-care facilities, foster homes, and child-care institutions which will protect and promote the child's total well-being.

Juvenile delinquency has been on the increase

since 1951 when one million youngsters were "picked up" by police. This is not a product of any one factor, but of many. The child's own personality and health, the effect of his family relationships and cultural pattern, the neighborhood in which he is raised, the economic situation, bad housing, the lack of appealing school programs, broken homes—all of these contribute to juvenile delinquency.

Health Programs for School Children

The health of the increasing number of more than 40 million children of school age continues to present a great challenge. In consultation with and advice from the American Medical Association, the national Parent-Teacher Association has recently adopted a policy to promote continuous medical supervision of young children instead of its summer round-up which consisted of only one examination and inoculation prior to entering school. The care that a child has had during the early years, including fetal life, largely determines his nutritional and health status at the time he enters school and influences his health during subsequent years.

Much progress has been made in the treatment and prevention of long-term illnesses such as chronic osteomyelitis, mastoiditis, bone and joint tuberculosis, rheumatic fever, and most recently poliomyelitis. Children suffering from congenital heart conditions are now being treated with a success that was only dreamed of a decade ago. Today's operative techniques not only save the lives of many of these babies, but also give them a chance to grow normally.

Even though chronic diseases are being treated with greater skill, many pediatric patients are in need of long periods of hospitalization and convalescent home care. Institutions are now providing a more homelike atmosphere, family-style meal service, and liberalization of visiting rules to allow parents and friends to stay with children at times. Because of the long-term stay of the patient in institutions, the child's nutrition while there is receiving more attention. The dietitian plays an important role in shortening the period of disability and in contributing to the patient's morale and emotional health.

Crippled Children's Programs

A general trend of the states' crippled children's programs is the acceptance of increasing numbers of children with severe types of handicaps in addition to orthopedic problems which had been their major interest. The group that has shown the most rapid increase is epilepsy. Because of the irrational attitude of society, even though three-fourths of epileptic seizures can be controlled by drugs, this condition remains one of the most frustrating handicaps to children.

Emphasis is being placed on hearing impairment of preschool children. With new testing equipment, the very young child with hearing impairment can now be discovered, and with immediate treatment his hearing may be saved.

Programs for mentally retarded young children are now being developed. It is estimated that 30 out of every 1000 children born are mentally retarded but have a widely varied intellectual ability. Most of them belong to the so-called educable group, having capacities for development, and some can grow into adults with gainful occupations. Most of those who are not in the educable group can be trained to care for their personal needs. It is now felt that perhaps only 1 out of the 30 will be completely dependent if given a chance early.

Organized parent groups have grown to great strength, and through them the Congress was motivated to appropriate funds for mentally retarded children. Most of the programs center around evaluating the child, counseling with the parents, directing research toward the cause and prevention, and stimulating communities to recognize and to make provision for further needs of these children.

Congenital malformations comprise the largest single group—approximately one-fourth—of the patients served by state crippled children's programs. Most of these present a complex problem requiring a multi-discipline approach in their diagnosis and treatment. Efforts are being made to learn more of the causes and methods of preventing congenital malformations. A few of the factors now thought to interfere with normal fetal development are described below.

Recent studies on women in German prison camps during World War II who suffered extreme starvation and unspeakable hardships reveal that five to ten years later, although they had apparently regained their weight and seemed in good health, when they became pregnant gave birth to mongols and other congenitally deformed infants much more frequently than occurs in the population at large. In other words, the germ cells of these women had been irreparably damaged by starvation in the prison camps.

Phenylketonuria and galactosemia, two nutritional disorders, have been found to be inborn errors of metabolism and can cause mental retardation. Phenylketonuria is a hereditary disorder with a missing enzyme of intermediary protein metabolism in which patients have a reduced ability to convert phenylalanine to tyrosine. There is also a disturbance in tyrosine metabolism which may be secondary to the phenylalanine defect. Phenylalanine, being an essential amino acid, cannot be completely eliminated from the diet without causing growth failure. Galactosemia, also a hereditary disorder, is due to the lack of an enzyme essential to the

conversion of galactose to glucose. These conditions can be easily diagnosed by simple urine tests and if treated early can be corrected by proper diet, thereby preventing mental retardation from these causes. Dietitians can be of great help in planning appropriate food for these children.

Radiation Hazards

Each age produces its own particular health hazards, and in this nuclear age, new problems arise in preventing and limiting radiation hazards. The nuclear age has not only produced benefits to the field of medicine, but has also presented some very grave problems. The National Academy of Science is currently studying, and will continue to study, the biologic effects of atomic radiation. In its 1956 report, it stresses the harmful effects of radiation, especially cumulative doses, to the genetic system in that it induces undesirable mutations which may result in the early death of an embryo or in varying degrees of malformations, both physical and mental, to the surviving child.

Aside from genetic damages, radiation may produce skin cancer, leukemia, and other conditions that will shorten the life-span. The human embryo and fetus, infants, and young children are especially sensitive to X-rays and fluoroscopic examinations. Their use should be kept to the minimum consistent with necessary diagnosis and treatment, most especially in pregnant women and in children. The reproductive cells through the child-bearing age should be safeguarded from X-ray exposure as much as possible. Research is in progress to improve methods and apparatus which will make it possible to obtain useful diagnostic results with the least feasible exposure.

That embryonic tissues are more susceptible than adult tissues to viral infections has long been recognized and put into practical use in laboratories. Many viruses will grow in chick embryos that produce no response in adult fowls. The Australian epidemic of rubella in the early forties established the serious nature of the effect on the fetus of this infection in the first trimester of pregnancy.

It has recently been reported, however, by Potter (2) that virus can be transmitted from an apparently healthy mother with no evidence of infection to the fetus *in utero*, producing a severe and often fatal form of the disease. The virus has a predilection for brain tissue, and the child who survives may be mentally retarded as well as having one or a multiple of malformations, such as cleft lip and palate, cataract, club feet, and cardiac anomalies.

Dangers from Accidents

An important new threat to health which may appropriately be called the twentieth century plague and which has assumed epidemic proportions is the danger from accidental deaths and disability. Child accidents now stand as the leading cause of death and disability among children from one to fourteen years of age. Accidents are the fourth cause of death among people of all ages. There is much more to the problem than fatalities, because it is estimated that for every death there are at least 150 disabling accidents.

Children are in a sense "chronologically" accident prone—that is, certain kinds of accidents are especially likely to happen at certain ages. It is an excellent form of anticipatory guidance for doctors to make sure that mothers are aware of the particular hazards of each age.

Hundreds of new medical and household products come on the market each year. There are 250,000 trade-name items now available that are potential hazards. It is impossible for any one person or group of persons to be acquainted with all potential poisons. A network of poison control centers has therefore been set up throughout the country to help deal quickly and efficiently in case of accidental poisoning. These centers maintain 24-hr. emergency service, not only to treat cases but also to answer queries from physicians and hospitals on the ingredients of drugs, household supplies, and other poisons and to advise on the latest treatment.

Epidemiologic studies are being carried on in relation to accidents and their prevention by many state and local health departments. Health departments are working more closely with highway departments and industry in "around-the-clock" accident prevention and in spear-heading citizens' committees to concern themselves with this terrible problem. With concentrated attention and widespread education on all sides, the reduction in child accidents can keep pace with reduced child mortality from communicable diseases.

Conclusion

Despite what has been done for maternal and child health in this country, there is a gap between what we are doing today and what needs to be done. We must do even more to keep pace with the changes that are occurring with breath-taking rapidity. What measures will be used to safeguard children in the future, or even what we must safeguard them against, no one can know.

For the immediate future we know that some of our current trends will be carried on, that some of our present knowledge will be of use, and that some of our wisdom can still be translated into action. "We are building on an age-old wisdom that recognizes the need of the child for his parents, and the security of a home to which he unquestionably belongs. Today we have new knowledge flowing from the social and biological sciences which helps guide us in the adjustment of conditions forced

upon us and our children by all of the modern ways of life.

"Each new generation brings its own problems—problems which require new approaches, new inventiveness, new counter measures, and above all new knowledge and greater skill on the part of adults" (3).

The benefits for our children to be derived from the newer trends on which I have barely touched, as well as tried and true older trends, represent a real investment in the future of our country—indeed in the future of the world, for children *are* the future.

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Cycle Menu Plan Adapted for Selective Menus

At the Portland, Oregon, Veterans Administration Hospital, dietitians have received an award for developing a system of selective menus adapted to the cycle menu plan. So successful has the plan been that it has been adopted on a nationwide basis for use in other Veterans Administration hospitals.

The "Master Selective Menus" are prepared to cover five-week periods. This length of cycle eliminates recognition by the patient, yet simplifies ordering and planning of work. The cook's daily work sheet with notations of problems, amount of food actually used, and any other pertinent information are used for reference when the time comes to repeat a cycle. The use of the cycle menu also aids the Chief of Dietetic Service to stay within her budget and more nearly to match the ration pattern, since it reduces fluctuation due to varying menus.

The selective menu is sent to the patient with his breakfast tray each morning. He marks it, and it is returned to the dietary department for tallying when his tray is picked up by an attendant. No attempt is made to provide new patients with selective menus until they are routinely distributed at the time of their first breakfast in the hospital. Patients who are incapable or who do no wish to mark a menu are served the first item in each group of foods from the menu.

The checked menus are scanned by a dietitian. Any inadequate or odd selection of food is noted, and she visits the patient on her next rounds.

Patients on modified menus also receive selective menus—the color of the menu denoting the type of diet. White paper is used for regular diets, yellow for low-sodium, and green for bland. A new patient on a modified diet is visited by a dietitian before it is time for him to make his first selection, thus assuring prompt attention from a dietitian and an early beginning of his instruction about his diet.

In making the daily tallies, the different colors of paper make it simple to do the original sorting into the types of diets. Then, the design of the menu itself, with column at left where the patients put their marks, allow rapid and accurate summarizing. Ten menus are aligned at a time for tallying, and tally totals are noted on a copy of the menu which becomes a part of the cook's work sheet.

The selective menu, as used here, has a number of advantages. Patients are better satisfied, and complaints have almost reached the vanishing point. Costs are reduced due to reduced plate waste. Dietitians have more time for patient contact and supervisory duties. Records of patients' food preferences need not be kept. Time in serving is reduced because the menus are easy to read. Recipes can be standardized to the amounts actually required, and cooks take more interest in improving recipes and preparation procedure. A greater variety of foods can also be served because it is possible to offer foods on a selective menu that are not acceptable to all patients.

The selective menu can also serve as a teaching aid, both for the patient on a regular diet who may have poor food habits and for the patient on a modified diet who learns about his diet before the day of discharge.—*From Oregon News Letter, Spring, 1958.*

Effect of Weight Loss on Blood Pressure[1]

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WILHELMJ (1) HAS presented an extensive review of the literature which showed that an increase in body weight elevates blood pressure, while a decrease lowers it.

The relationship between blood pressure and body weight has been ascertained essentially by two methods: first, statistical studies based on medical case histories (2-4); and second, an experimental approach based on periodic measurements of body weight and blood pressure (5-7). In almost all reports little or no information is given about the dietary programs employed.

This investigation was undertaken to determine the effects of a supervised reducing regimen on resting arterial blood pressure. The problem was studied before, during, and after a program of weight reduction utilizing nutritionally adequate low-calorie diets.

Experimental Design and Techniques

The experiment was divided into four phases as follows: (a) orientation, (b) maintenance of overweight, (c) weight reduction, and (d) maintenance of reduced weight.

ORIENTATION

This period lasted for five weeks, during which the subjects familiarized themselves with the routine of the experiment. During the latter part of this period, the subjects obtained their total diet in the hospital cafeteria where they were to eat the prescribed diets during subsequent periods. There were no restrictions in the matter of food during this period. The menu of the day was presented to the subjects at breakfast, and they were required to note the kind and amounts of food they expected to choose during the day. The purpose of this procedure was to enable the nutritionists who were to be in charge of the calorically controlled diets which were to follow, to plan meals to the best advantage of the subjects.

A schedule of convenient times for subjects to come to the laboratory for blood pressure measurements was arranged. They reported once each week, on the same day of the week and at the same hour.

MAINTENANCE OF OVERWEIGHT

During this four-week period dietary calculations were adjusted to maintain the overweight status of each subject. Although there are several methods by which the total daily energy expenditures can be calculated, most of these are not readily adapted to a long-term program. In this experiment, an estimation of the daily caloric requirement was done according to the methods recommended by Jolliffe (8).

WEIGHT LOSS

The duration of this period varied with the subject and of necessity depended on the percentage overweight of each subject as well as the rate of weight loss.

There are many things to be taken into consideration in prescribing reducing diets, especially for those who wish to lose considerable poundage. It is obvious that the lower the caloric intake, the greater the problems become. To reduce these problems to a minimum, it was necessary to prescribe diets which provided for a moderate weight loss. Calculations showed that for these subjects, diets which were acceptable and which could be eaten over a relatively long period, designed to produce a weight loss of 2 lb. per week, could be provided. To

[1]The work was generously supported by the Cereal Institute, Inc., Chicago. Received for publication July 9, 1958.

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accomplish this, a total of 1000 calories was subtracted from the daily caloric allowance for energy expenditure for each subject. This computation was based on a required deduction of 3500 calories to lose 1 lb. body fat.

Weekly measurements of body weight (nude) were made, and the daily caloric intake adjusted periodically as necessary. Adjustments were most often made after a loss of 25 lb. This required a deduction of 100 calories, the equivalent of 4 calories for each pound of weight.

A 1500-calorie daily diet was used as a basis for the reducing calculations. This basic diet has been described in detail elsewhere (9). By adding to or subtracting from it, the desired daily caloric intake could be achieved. In the experiment reported here, a daily diet of not less than 1700 calories was adequate to obtain the desired weight loss in the majority of cases. All diets were calculated from data presented by Bowes and Church (10).

In all cases, the diet included an adequate breakfast which has been shown to be necessary to maintain efficiency in the late morning hours (11). This breakfast provided one-fourth the daily caloric requirement and protein allowance, which is not less than 15 gm. The moderate weight loss plan is conducive to the inclusion of an adequate breakfast, which consists of fruit, cereal, milk, bread, butter, and sugar. The cereal breakfast was prescribed because of the wide variety of cereals available and the convenience in serving.

TABLE 1 **Weight loss of each subject**

SUBJECT	SEX	AGE	ORIGINAL WEIGHT	WEIGHT LOSS	PER CENT WEIGHT LOSS
		yr.	*lb.*	*lb.*	
1	M	24	220	33	15
2	F	25	233	87	27
3	M	25	251	61	25
4	F	22	168	39	23
5	F	28	167	33	20
6	F	24	169	21	12
7	F	22	307	107	35
8	F	35	142	16	11
9	F	29	199	45	23
10	F	27	172	29	17
11	M	24	231	43	19
12	F	25	168	30	18
13	F	37	160	27	17
14	F	23	165	31	19
15	M	32	200	26	13
16	F	24	155	29	19

MAINTENANCE OF REDUCED WEIGHT

The reduced body weight status attained by the subjects was maintained for four weeks by adding 1000 calories per day to the reducing diets.

SUBJECTS

Twelve women, twenty-two to thirty-seven years of age, and four men, ranging in age from twenty-four to thirty-two years, served as subjects. The women were 14 to 85 per cent above average weight and the men 21 to 39 per cent overweight. A complete description of the subjects has been reported elsewhere (9). The amount of weight lost by each subject is shown in Table 1.

MEASUREMENT OF BLOOD PRESSURE

Blood pressure was measured after 5 min. of rest, in the sitting position, by means of a Tycos sphyg-

TABLE 2 **Effect of weight loss on mean systolic blood pressure for each period, together with a comparison of Period 1 with Periods 2, 3, and 4**

SUBJECT	PERIOD 1	PERIOD 2		PERIOD 3		PERIOD 4	
		Mean	Probability	Mean	Probability	Mean	Probability
	mm. Hg.	*mm. Hg.*	%	*mm. Hg.*	%	*mm. Hg.*	%
1	131± 5.8*	133±11.2*	66.0	116±5.0*	0	119±2.4*	0.3
2	119± 2.2	105± 3.7	0	103±2.9	0	101±1.2	0
3	142± 9.6	137±15.1	46.0	123±5.8	0.2	123±3.2	0.9
4	136± 4.6	123± 4.6	0	121±3.9	0	124±4.1	0.2
5	130± 7.8	121± 4.8	0.02	113±3.9	0	120±1.0	0.1
6	118± 2.4	114± 3.4	2.7	110±2.0	0	113±5.8	13.0
7	162± 4.0	137± 8.7	0	125±5.3	0	111±3.9	0
8	122± 4.5	129± 3.3	0.8	122±4.8	100.0	107±4.8	0.2
9	121± 9.4	122± 3.4	72.0	115±4.3	4.0	116±3.5	16.0
10	110± 2.0	104± 3.0	0.02	101±1.0	0	101±1.1	0
11	117± 5.0	119± 2.2	45.0	112±4.6	10.0	110±1.0	3.0
12	126± 7.0	128± 4.1	61.0	112±4.4	0.2	115±1.0	2.0
13	112± 4.3	113± 4.0	70.0	107±3.2	3.0	111±2.0	66.0
14	124± 4.7	116± 5.3	1.0	113±5.6	0.2	111±1.7	0.1
15	122± 2.8	119± 5.0	26.0	118±2.2	4.0	119±1.0	5.0
16	129± 9.9	117± 7.4	4.0	107±5.2	0.04	101±2.0	0.01
Mean . . .	126±12.7	121± 9.5	20.0	114±8.1	0.3	113±3.3	0.1

*Standard deviation.

momanometer, using the auscultatory method. Systolic pressure was recorded at the point where the first sound was heard on deflating the cuff after complete occlusion of the artery. Diastolic pressure was recorded at the point where the sound disappeared on complete deflation of the cuff.

The values obtained during the original orientation period served as the control value for each subject.

STATISTICAL ANALYSIS

An unrelated sample statistical technique described by Schueler (12) was used to analyze the data. The null hypothesis was rejected at the 5 per cent level of confidence.

To compare the effects of weight reduction among the subjects, the total weight lost by each subject was determined and then divided into approximately equal parts. The mean was calculated for each function studied during the time elapsed for each segment. These were equivalent to approximately 0 to 50 per cent and 50 to 100 per cent excess weight losses, respectively. Hence, the various phases of the investigation, as far as collection of data and statistical analysis are concerned, were divided as follows:

Period 1—initial maintenance phase
Period 2—0 to 50 per cent of the weight lost
Period 3—50 to 100 per cent of the weight lost
Period 4—maintenance of reduced weight status

The mean systolic and diastolic pressures of each subject for each period were determined, and a "t" value was calculated according to the scheme: Period 1 vs. Period 2, Period 1 vs. Period 3, Period 1 vs. Period 4.

Results

SYSTOLIC BLOOD PRESSURE

Mean systolic blood pressure values for each subject for each period, together with a statistical comparison for these values are presented in Table 2. These data show that there was a significant decrease in systolic pressure in eight subjects during Period 2, during which 50 per cent of the weight loss was accomplished. In seven of these eight subjects, the significant difference continued for all periods. In one of the eight subjects, systolic pressure remained significantly less than the control value during Period 3 but was not different from control during Period 4. Systolic pressure was significantly elevated during Period 2 in one subject, but was significantly lower than the control level during maintenance in the reduced body weight period. Seven subjects experienced no significant change in systolic pressure during Period 2.

In four subjects, systolic pressure did not become significantly less than control until Period 3 and then remained less during Period 4.

Systolic pressure of two subjects was significantly reduced from control values only during Period 3. In one subject, it did not drop significantly until Period 4.

The data show that weight loss as accomplished in this experiment resulted in a significant decrease in systolic pressure in thirteen of sixteen subjects, while in the other three, there was no significant reduction. Seven subjects followed a definite blood pressure pattern throughout the experiment, while the remaining nine showed no consistent pattern.

A statistical comparison of the mean differences

TABLE 3 Effect of weight loss on mean diastolic blood pressure for each period, together with a comparison of Period 1 with Periods 2, 3, and 4

SUBJECT	PERIOD 1	PERIOD 2		PERIOD 3		PERIOD 4	
		Mean	Probability	Mean	Probability	Mean	Probability
	mm. Hg.	*mm. Hg.*	%	*mm. Hg.*	%	*mm. Hg.*	%
1	75±8.9*	76.6± 6.8*	81.0	66±4.4*	3.0	66±5.4*	11.0
2	70±0	60± 0	0	61±2.2	0	60±0	0
3	87±5.0	75±11.2	1.0	67±5.8	0	66±2.4	0
4	70±0	65± 2.7	0	64±4.9	0	67±2.7	4.0
5	70±0	65± 2.4	0.02	63±4.5	0	72±5.8	57.0
6	61±4.7	60± 0	56.0	60±0.	56.0	64±4.8	35.0
7	87±5.2	71± 8.0	0	66±4.5	0	62±3.0	0
8	70±3.2	76± 4.4	1.0	70±4.7	100.0	59±2.5	0.1
9	76±6.0	71± 3.0	5.0	66±2.5	0.02	68±2.8	3.0
10	67±3.6	63± 2.2	3.0	65±3.8	36.0	65±0	19.0
11	66±4.9	61± 3.6	9.0	55±4.4	0.2	55±5.0	3.0
12	73±7.0	78± 3.9	22.0	70±1.1	40.0	70±0	38.0
13	65±5.0	60± 0	5.0	60±2.0	5.0	60±0	4.0
14	75±5.0	70± 6.8	13.0	63±4.2	0.1	61±2.4	0.1
15	72±8.6	67± 4.2	31.0	62±4.1	5.0	66±4.8	27.0
16	78±7.6	64± 5.4	0.5	59±2.3	0	60±0	0.1
Mean . . .	73±7.1	68± 6.3	10.0	64±4.0	0.1	64±4.5	0.1

*Standard deviation.

in systolic pressure for the various phases of the experiment revealed that for the entire group, systolic pressure during Period 2 was lower than during Period 1 (P=2 per cent). However, on the basis of differences in means this is not true (P=20 per cent). Systolic pressures were significantly less than control during Periods 3 (P=0.3 per cent) and 4 (P=0.1 per cent). Further analysis showed that the values during Period 3 were significantly less than during Period 2 (P=3 per cent), but during Period 4 the blood pressure was not significantly different than during Period 3 (P=92 per cent).

DIASTOLIC BLOOD PRESSURE

Mean values for diastolic pressure for each subject for each experimental period are shown in Table 3. The data show that diastolic pressure was increased in one subject but was significantly decreased in nine subjects during Period 2. In seven of the nine subjects, this significant reduction was maintained for all periods. In the other two of the nine subjects in whom diastolic pressure was decreased during Period 2, the difference was maintained during Period 3 in one subject and was not seen in either Period 3 or 4 in the other.

Four subjects did not experience a significant decrease in diastolic pressure until Period 3, but the reduction was maintained in only two of them during Period 4.

No significant change during any phase of the experiment was seen in two cases.

The end result of the experiment was a significant fall in diastolic pressure in ten subjects. In six cases, it was not significantly changed by the reducing regimen.

A statistical comparison of the mean differences in diastolic pressure for the entire group showed that the diastolic pressure during Period 2 was significantly less than Period 1 (P=1 per cent). On the basis of the differences in means, this is not true (P=10 per cent). Also, Period 3 was significantly less than Period 2 (P=0.01 per cent). It was further found that the values during Period 4 were not different than those in Period 3 (P=100 per cent).

Summary and Conclusions

Blood pressure measurements were collected for twelve women, twenty-two to thirty-seven years of age, and for four men ranging in age from twenty-four to thirty-two years. The entire group was from 14 to 85 per cent above normal weight. Nutritionally adequate diets were prescribed for each individual designed to produce a decrease in body weight of approximately 2 lb. per week.

On the basis of the data collected on these subjects before, during, and after weight reduction, the following conclusions appear to be warranted.

(a) During the time observations were made after weight reduction, 81 per cent of the subjects showed a significant decrease in systolic pressure, whereas 62 per cent had a significant decrease in diastolic pressure.

(b) In eight subjects, systolic pressure was significantly reduced during the 0 to 50 per cent weight loss phase, but during the reduction of body weight to normal (50 to 100 per cent excess weight loss phase) fourteen subjects had a systolic pressure below their control values determined at the beginning of the investigation.

(c) Diastolic pressures were significantly less than control values during the 0 to 50 per cent excess weight loss phase in nine subjects, but with the reduction of body weight to normal, diastolic pressures were decreased from control values in 75 per cent of the subjects.

(d) On the basis of mean differences, there was a lowering of both systolic and diastolic pressure as the weight loss program progressed.

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Effect of Processing and Handling on Foods[1]

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PROCESSED FOODS properly handled can be more nutritious than fresh foods bought at a market. This may not seem logical, but when all factors which contribute to deterioration of nutritive value are considered, it is readily understandable.

After a food is harvested, deterioration in quality begins immediately and proceeds at a rate dependent on environmental conditions and harvest maturity. If this rate of deterioration can be interrupted by a preservation process and the processing itself does not cause appreciable loss of quality, then processed food may, after a certain length of time, be of better quality than so-called fresh foods.

History of Food Preservation

There have been many milestones in man's efforts to preserve food to prevent starvation in periods of scarcity and to assure a balanced, palatable diet at all times. It is therefore worth while to consider a little of the history of food preservation. Milestones in food preservation, such as drying, smoking, baking, fermentation, salting, and packing with sugar, found their origins in antiquity. These processes produced foods which were edible but quite different from the original product. Considerable losses also occurred in vitamins and other labile constituents.

One of the greatest advancements in food preservation was the discovery of canning by the Frenchman, Appert, in 1810. However, little progress was made in this field until sixty years later when Pasteur showed that the cause of food spoilage was microorganisms.

The next great advancement was the freezing of foods, which slowly developed from the early 1920's and became very important during World War II due to the shortage of tin plate for canning. Clarence Birdseye is usually considered the father of the frozen food industry, although inhabitants of very cold climates preceded him by many years in the knowledge that frozen foods do not spoil.

[1]Presented before the San Jose Peninsula Region of the California Dietetic Association on March 26, 1958.

It appears likely that the next great milestone in man's attempt to preserve foods will be irradiation. This may have certain advantages. The foods need not be heated except for blanching requirements, packaging will be cheaper, and cold storage may not be necessary. It is also possible that in time, processing costs would be less.

In the author's opinion, commercial irradiation of foods is not as close at hand as one might be led to believe from reading popular articles. The reason is simply that the amount of irradiation necessary to sterilize foods so that they may be consumed with safety is so great that undesirable changes are produced in their flavor, texture, and color. Some of these effects are "wet-dog" odors, texture softening, and off-colors. A hopeful approach to this problem is to find ways of making the microorganism on and in the foods more susceptible to irradiation killing. This would permit lower radiation doses and consequently less effect on quality.

Intensive research, representing many millions of dollars, has been conducted on food irradiation by the Armed Forces as well as by private industry and universities. It appears that even more will be done in the future. It is reasonable to anticipate that a breakthrough will be achieved before too many years.

A cardinal principle to remember for all preservation processes is that the final product can never be any better than the fresh produce as it is received from the farmer. Growing conditions, maturity at harvest, harvesting methods, environmental temperatures after harvest, elapsed time from harvest to processing can all have a pronounced effect on the quality of the food to be processed. These same factors operate to reduce the quality of the fresh fruits and vegetables bought at the grocery store.

Quality Problems in Canning

Canning is the most common method of food preservation, and some of the problems of this process concerned with maintaining quality and nutritive value follow.

Through the washing stage at a cannery, the handling of the foods is no different from that in other preservation methods. Beyond this point, quality losses due to processing procedures begin to occur. For example, peeling fruit may reduce its sweetness, since the highest sugar concentration is often right under the skin. Sterilizing the fruit by heat is found to partially destroy some of the sensitive compounds such as ascorbic acid and thiamine.

Canned vegetables have two important sources of nutritive loss during processing. The first of these losses occurs during blanching, a heating process by steam or hot water to expel the air from the vegetable. During blanching, the cells of the vegetable are ruptured and some of the juices containing water-soluble factors, such as sugar, ascorbic acid, and thiamine, are lost. Subsequently, the high-temperature necessary to sterilize the vegetables destroys heat-sensitive substances. Some of the most obvious of these are the loss of bright green color present in fresh or frozen vegetables and the overcooked texture of canned peas or canned spinach.

Some vegetables, such as broccoli and Brussels sprouts, are not acceptable as canned products due to the formation of disagreeable sulphur compounds during high-temperature processing required in the canning process.

It is not my intention to imply that canned foods are not good, nutritious foods; the only intention is to point out the limitations of the process compared with other methods of food preservation. Canners are aware of these limitations and are striving to minimize them. Perhaps the most promising development is short-time, high-temperature processing. This technique is quite beneficial in preserving quality. However, its greatest benefits are realized if the canned goods are held in cool storage after processing.

Frozen Foods

As mentioned above, perhaps the most important development in food preservation in this century is food freezing. So many companies have entered the field and competition has become so keen that in many instances, pound for pound, frozen foods are as cheap as, or cheaper than, canned foods. This price-cutting has not been without its detrimental effects on frozen food quality.

During preparation for freezing, the nutritive and quality losses are similar to those suffered in preparation for canning. Beyond this stage, the great advantages of frozen food processing are realized in that they are preserved by freezing instead of heating, drying, or other methods which alter the fresh appearance, taste, and some of the nutritive value of the foods. If the food is frozen quickly and held at 0° F. or below, quality losses should be negligible even after a year's storage in the case of vegetables and meats, and after many years' storage for certain fruits, such as raspberries and strawberries. The preparation losses in quality are in general not as great as the losses due to aging of fresh foods from the field to the market. Therefore, properly handled frozen foods can be of better quality and nutritive value than some fresh market foods.

Frozen foods are costly to warehouse, distribute, and merchandise, since they must be kept in the frozen state. In fact, the cost of these services in some cases represents over 50 per cent of the retail cost of a package of frozen foods.

The ideal storage temperature for frozen foods is 0° F. or below. Under these conditions, with proper packaging, any frozen food should maintain its good quality for at least a year. Raising the temperature to 10° F. may triple any of the quality losses which are occurring. At 20° F., this rate increases sixteen times, and at 30° F. the rate is sixty times. In other words, six days at 30° F., which is 10° below the average refrigerator temperature, will cause as much deterioration as a year at 0° F. And, at this temperature microbiologic spoilage may occur as well. Another factor that should be recognized is that such losses in quality are cumulative, and refreezing will not serve to correct them.

Signs of Mishandling in Frozen Foods

There are a number of ways to judge whether or not frozen foods have been mishandled from the standpoint of storage temperature, for instance: peaches turn brown, especially at the ends of the package; strawberries develop an off-flavor and color; raspberries bleed their red color into the sirup; cherries turn dark brown; orange juice concentrate loses its cloud and settles out rapidly when reconstituted. Vegetables in general lose their bright green color. Frost formation around the loose-packed vegetables is often apparent. Poultry darkens and may show dehydration. The fat under the skin becomes rancid, which is very noticeable on cooking.

Chemically, determination of ascorbic acid in fruits and vegetables is a good indicator of mishandling.

The frozen food industry is well aware that at times these abuses occur, and it is trying to correct them. In the past few years it has spent nearly a million dollars studying the effects of storage time and temperature on the quality and nutritive value of frozen foods (1-8). In addition, a quarter of a million dollars was given to the Wisconsin Alumni Research Foundation to make a complete study of the various nutrients present in frozen foods (9).

As was mentioned about canned foods, these state-

TABLE 1 Comparison of ascorbic acid, thiamine, sugar, and beta carotene in three vegetables, purchased fresh and frozen, after cooking

VEGETABLE	ASCORBIC ACID	THIAMINE	SUGAR	BETA CAROTENE
	mg./100 gm.	*mg./100 gm.*	*%*	*I.u./gm.*
Peas				
Fresh	16.3	0.049	3.84	0.81
Frozen	8.6	0.054	5.20	1.71
Corn				
Fresh	7.7	0.049	1.81	5.2
Frozen	6.9	0.054	3.41	5.4
Green beans				
Fresh	6.3	—	—	0.81
Frozen	2.2	—	—	1.71

ments are not meant to imply that frozen foods are poor products. The only intent is to point out the problems that exist and their methods of correction.

Irradiated Foods

Returning to irradiated foods, any food can be sterilized by radiation if it is given a sufficiently high dosage. However, in doing so, undesirable changes are often produced. Some of these changes are: softening of texture, development of undesirable flavors, loss of color, and decrease in nutritive value, especially vitamin content. The loss in nutritive value is, however, usually no greater than that experienced in canning.

The foods which show the least quality losses on irradiation include, among others: asparagus, bacon, green beans, beef liver, broccoli, Brussels sprouts, carrots, chicken, codfish, pork, pork sausage, and waffles.

Some of the most sensitive products to irradiation are: milk, milk products, orange juice, strawberries, lettuce, and tomato juice.

Evidence to date indicates that foods sterilized by irradiation are not dangerous from the radioactive standpoint, since the dosage needed to produce radioactivity is many times that required to produce complete sterility. Feeding experiments have been conducted over a number of years to determine whether any dangerous compounds are produced in food by irradiation, and, to date, the results are all negative.

Comparison of Fresh, Frozen, and Canned Foods

It is interesting to make a few comparisons on nutritive values between fresh, frozen, and canned foods. Irradiated foods will be omitted because they are not commercially available, and processing procedures have not been standardized.

There is not a great deal of data on nutrients which is available on the same basis for the various types of foods. Some are reported on the cooked basis and some on the "as received" basis. This can be of importance because cooking methods so greatly influence certain labile and soluble constituents. For instance, as high as 70 per cent ascorbic acid, 40 per cent thiamine, 40 per cent riboflavin, and 50 per cent of certain minerals may be lost on cooking. However, there are some direct comparisons (10). Certain studies were made on fresh and frozen vegetables purchased at the market. In Table 1 are given a few comparisons on the cooked basis.

TABLE 2 Comparison of ascorbic acid, thiamine, riboflavin, and beta carotene in uncooked frozen and canned vegetables and fruits

FOOD	ASCORBIC ACID	THIAMINE	RIBOFLAVIN	BETA CAROTENE
	mg./100 gm.	*mg./100 gm.*	*mg./100 gm.*	*mg./100 gm.*
Peas				
Frozen	19	0.32	0.10	0.41
Canned	9	0.11	0.05	0.27
Corn				
Frozen	8	0.11	0.07	0.05
Canned	5	0.03	0.05	0.08
Green beans				
Frozen	9	0.07	0.10	0.35
Canned	3	0.03	0.04	0.18
Spinach				
Frozen	35	0.10	0.16	4.90
Canned	13	0.02	0.01	3.30
Peaches				
Frozen	40	0.010	0.04	0.07*
Canned	3	0.008	0.02	0.20
Orange juice				
Frozen	47	0.09	0.01	0.005
Canned	35	0.07	0.02	0.10

*Difference may be due to variety, since beta carotene is quite stable.

Data on ascorbic acid available for frozen and fresh orange juice, which makes up the bulk of the frozen fruit sales except for strawberries, are as follows:

PRODUCT	ASCORBIC ACID
	mg./100 gm.
Frozen orange juice	48
Fresh orange juice	55

The data for comparison of uncooked frozen foods (9) and canned foods (11) are much more complete. In Table 2, a few examples of our most common foods are given. It should be kept in mind that the analyses of canned foods include the brine or sirup which is commonly included with the canned food and which usually amounts to about one-third of the contents.

The only conclusions which should be drawn from the data in Tables 1 and 2 are that frozen foods can be as good nutritionally as fresh foods and that, in general, frozen foods may be somewhat better nutritionally than canned foods.

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What Do Convenience Foods Cost?

Food prices have risen fairly steadily since 1940, but so have the production and consumption of convenience food items. To what extent have the latter been the cause of the former? This was the question raised by U.S.D.A. economists in a preliminary price study of convenience food products in Washington, D.C., in December 1957. Apparently there has not been a very close tie-in between developments, according to their findings.

The average homemaker was paying only about 1 per cent more for "serviced" foods. On $100 worth of groceries, she has added only 61 cents to cover the cost of "built-in maid service." However, this was true only when the women followed the same purchase pattern as the average consumer, and when the price of each convenience food included in the study was weighted by the percentage of the food budget usually spent for these items.

In this study, all items included in the comparison were as nearly comparable as possible. Grades, varieties, and other food characteristics were closely matched, as were quantities. Quality was the only factor that did not always match closely. Some fresh foods lacked a processed item of equal quality, and in other cases, processed foods were superior in quality to the fresh products available in many retail stores.

Some of the convenience foods included in the study were: packaged frozen ground beef patties, cut-up ready-to-fry chicken, frozen precooked sausage, instant coffee, frozen French fried potatoes, frozen chopped spinach, frozen concentrated orange juice, breaded ready-to-fry shrimp, chilled orange juice, and cake, cookie, biscuit, and piecrust mixes. Frozen precooked dinners were not included.

Of the 52 items in this selected list, 28 of the convenience foods cost more than their comparable unserviced products; 18 were less expensive; and 6 were equal in price. The 28 serviced foods which were more expensive cost a total of $3.32 more—or 12 cents per unit. However, it is pointed out that such a per-unit average is not realistic. Tea bags accounted for nearly half of the total increase. For the 18 serviced foods which were cheaper, the difference amounted to $2.94, or 16 cents per unit.

Seasonality of the various products was not considered in this study. Some of the convenience foods may offer the consumer a cheaper alternative at certain times of the year, but may be more expensive at other times. For example, angel food cake mix, which contains twelve or thirteen egg whites, may be cheaper than the separate ingredients during the fall when fresh egg prices are high.—*From Agricultural Marketing, September 1958.*

Study in Acceptability by Patients

Torula Yeast as a Dietary Supplement[1]

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Dried yeast has potentialities as a protein, mineral, and vitamin supplement for hospital diets. The development of torula—a bland-flavored yeast—invites experimentation for this purpose. The authors have succeeded in adding approximately 5 gm. protein, plus minerals and B-complex vitamins, to the day's food intake of patients in a mental hospital.

BRENNER (1) AND McCAY (2) review and discuss the practice of adding yeast to certain foods and the changes in appearance and palatability which take place. Brenner (1) found that thiamine, riboflavin, and niacin retention in foods containing yeast was 90 to 100 per cent after preparation and storage for six months at 100°F.

Extended experience with the feeding of torula yeast to man and animals over the years since 1935 resulted in acceptance by the U.S. Pharmacopoeia (3). The protein, vitamins, and minerals which can be contributed by food yeast are apparent from the composition of torula food yeast given in Table 1.

The increasing popularity of adding yeast to foods is evident from popular articles (4, 5). Since torula yeast is bland and entirely devoid of any bitterness, experimentation in this direction should continue. Not only can the beneficial effects of yeast in ordinary diets be demonstrated, but in some cases, such as in hospital feeding, it may provide a convenient way of increasing protein, vitamin, and mineral intake by the patient. This study was undertaken as an exploration of some of the factors affecting patient (or consumer) acceptability of foods to which torula yeast had been added.

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[5]The authors wish to express their appreciation to the following for their help in conducting this study: Charles Marshall, Charles Bowman and Company, New York, New York; Robert L. Smith, Ph.D., Mead Johnson & Company, Evansville, Indiana; Averill J. Wiley, Technical Director, and L. M. Whitmore, Jr., Ph.D., Assistant Director, Sulphite Pulp Manufacturers' Research League, Appleton, Wisconsin; J. T. Petersik, M.D., Superintendent, and H. C. Colgan, M.D., Clinical Director, Winnebago State Hospital, Winnebago, Wisconsin.

Purpose

The Winnebago State Hospital (an institution operated by the Wisconsin Department of Public Welfare) in cooperation with the Sulphite Pulp Manufacturers' Research League and Lake States Yeast Corporation, used torula yeast in the feeding of patients from October 5, 1955 to April 11, 1956, a total of 191 days.

This study has been developed along two separate lines: (a) the incorporation of torula yeast into certain foods normally fed to a large number of people to establish acceptability in a variety of different foods and to observe any "abnormal" physiologic reactions, such as allergies and nausea, often of concern in establishing new food products, and (b) an evaluation of torula yeast in the human diet.

This report covers only the first phase of this study.

Procedure

Of the twelve hundred patients at Winnebago State Hospital, approximately three hundred were chosen as subjects for study. It was decided that all patients eating general diets in certain wards would receive the torula yeast supplement. It had been determined that the patients in these wards were able to cooperate.

Because of limited kitchen facilities and staff, the procedures involved in food preparation were kept as simple as possible. The food for all patients was prepared in a central kitchen in large quantities. In most cases the torula yeast was added after cooking. The food and torula yeast were weighed and then the two were mixed. However, in meat loaves, casseroles, and baked goods, it was possible to incorporate the yeast before cooking.

The number of patients being observed on each ward was obtained. From this it was possible to determine the number of grams of yeast available

per person per day (Table 2) during the investigation.

Results

Torula yeast was quite compatible in soups, especially those made from meat stock. The greatest quantity tried was 21 oz. to 140 lb. of soup, but greater quantities might have been acceptable.

Meat casserole dishes, chili, gravies, and tomato sauces were particularly suitable as foods to which torula yeast could be added. This may have been due to the completeness with which the yeast could be mixed. The yeast also was added to some fruit sauces, but adverse comments were received. Lesser amounts might have been acceptable in these sauces, although this was not checked, since it seemed more practical to add it to fewer foods in larger quantities. In Table 3 is given a list of the foods to which yeast has been added, together with an estimate of the maximum amount allowable from the standpoint of patient acceptance.

Yeast in large amounts was readily acceptable in most vegetable dishes. The staff generally agreed that the yeast increased the acceptability of mashed potatoes, even at relatively high levels. Although it darkened the potatoes slightly, the flecked appearance seemed to add to the palatability. The addition of even small quantities of yeast made the salads less acceptable. The cottage cheese was not accepted at all, although the yeast taste had blended very well with other protein foods. This was interesting since there was a flecked appearance similar to that in mashed potatoes.

The torula yeast was well accepted in all baked goods. Two possible reasons are: (a) the addition before baking; and (b) the relatively small amounts used as compared with that in meats and vegetables. The effect on quality and appearance in the finished product limited our use in baked goods to the amounts shown in Table 3.

The effect on cereals was similar to that for mashed potatoes, i.e., the appearance was changed, but it nevertheless had no effect on acceptability.

Yeast enhanced the flavor of eggs, both scrambled and creamed, but lowered somewhat the appearance appeal of the creamed variety.

When tried in hot beverages, relatively high levels of yeast were tolerated in cocoa, probably due to the dark color and intense flavor of that drink, which masked the appearance and flavor of the yeast.

There was no significant nausea, allergy, or vomiting.

TABLE 1 Analysis of torula food yeast, U.S.P. Type B*

NUTRIENT	AMOUNT
Proximate Composition	
	%
Ash	7.0
Moisture	4.9
Protein (N x 6.25)	50.0
Carbohydrate	30.0
Fat	2.0
Amino Acids	
Aspartic acid	4.5
Threonine	2.6
Serine	2.0
Glutamic acid	7.8
Proline	0.3
Glycine	2.3
Alanine	3.2
Valine	2.5
Methionine	0.6
Isoleucine	2.2
Leucine	3.9
Tyrosine	2.4
Phenylalanine	2.5
Histidine	0.9
Lysine	3.6
Arginine	2.6
Cystine	0.5
Tryptophan	0.8
Vitamins	
	mcg./gm.
Thiamine	150
Niacin	500
Biotin	1
Choline	2500
Vitamin B_{12}	0.003
Riboflavin	50
Pantothenic acid	100
Pyridoxine	35
Folic acid	30

*Analyses by laboratories of the Sulphite Pulp Manufacturers' Research League.

TABLE 2 Quantities of yeast available in various meals

MONTH	MORNING			NOON			NIGHT			AVERAGE TOTAL YEAST
	Number of meals	Range	Average	Number of meals	Range	Average	Number of meals	Range	Average	
		gm./portion			*gm./portion*			*gm./portion*		*gm./month*
October	20	0.7–4.5	2.4	23	1.3–6.2	4.2	27	1.3–11.0	4.4	258
November	19	1.2–4.4	2.3	29	1.4–5.7	3.6	30	1.7– 9.8	5.7	319
December	22	1.4–6.6	2.3	31	1.4–7.0	3.6	31	1.8– 9.8	6.0	397
January	22	1.4–2.2	1.7	30	1.4–5.7	3.3	31	2.4–10.6	5.8	315
February	15	1.3–2.0	1.6	28	1.3–5.3	3 4	29	2.4–10.3	5.6	282
March	21	1.3–1.6	1.5	31	1.2–5.9	3.6	31	1.9– 9.5	5.5	316
April	7	1.4–1.7	1.6	11	1.4–5.0	3.0	11	3.5– 7.8	5.4	100

TABLE 3 Level of torula yeast which could be added to foods from standpoint of patients' acceptance

FOOD	WEIGHT OF FOOD		WEIGHT OF YEAST		MAXIMUM YEAST
	Average	Range	Average	Range	
	lb.	*lb.*	*lb.*	*lb.*	*oz./100 lb.*
Soups					
Bean	155	150—160	21	21	*
Chicken	138	135—140	19	12—21	*
Chicken-noodle	147	140—161	15	10—21	*
Chicken-rice	137	135—140	19	16—21	*
Clam chowder	137	130—140	16	16	*
Pea	157	140—169	20	16—21	*
Potato	140	120	14	12—16	*
Tomato	150	140—168	19	16—21	*
Tomato-rice	145	140—160	16	16	*
Vegetable	120	85—140	16	16	*
Meat, Fish, and Casseroles					
Beef					
Chipped	127	80—175	20	16—21	16
Hash	102	60—150	19	16—21	*
Loaf	91	68—140	19	16—31	*
Casseroles					
Macaroni and cheese	146	120—183	20	16—28	21
Spaghetti	151	135—170	22	16—32	*
Spanish rice	169	150—196	19	16—21	*
Chili	147	110—175	20	16—32	*
Cod, creamed	143	126—154	19	16—21	30
Dressing	50	25— 65	16	16	*
Goulash	130	130	16	16	*
Liver, potted	116	116	32	32	*
Pork					
Barbecued	100	100	21	21	*
Pie	120	120	16	16	*
and beans	160	140—180	23	21—24	*
Salmon loaf	86	60—100	17	15—21	*
Sauces					
Applesauce	88	63—120	14	7—21	18
Barbecue	48	48	16	16	32
Cherry	100	90—110	16	16	16
Cranberry	84	84	10	10	12
Cream	47	31— 60	18	16—21	32
Creole	76	45—112	18	8—32	16
Fruit	92	65—120	18	16—21	24
Gravy	83	35—160	17	7—21	30
Horseradish	76	60— 92	14	12—16	20
Lemon	94	94	21	21	22
Raisin	80	70— 90	20	16—21	22
Tomato	68	40— 70	17	7—21	18
Salads					
Apple-raisin	80	80	16	16	20
Cabbage	52	45— 60	10	7—12	16
Cabbage-pineapple	50	50	16	16	32
Carrot-raisin	50	50	10	10	20
Cottage cheese	60	60	11	5—16	0
Potato, German	110	80—140	16	16	20
Slaw, cole	53	50— 60	13	7—16	26
Slaw, hot	105	91—120	18	16—21	18
String bean-onion	50	50	8	8	16
Tossed	65	60— 70	16	16	22
Waldorf	56	55— 60	14	11—16	20
Salad Dressings					
French	18	9— 35	13	5—16	*
Sour cream	10	10	16	16	*
Vinegar	25	10— 40	16	16	*
Vegetables					
Asparagus, creamed	108	84—120	16	8—21	*
Beans					
Baked	141	114—161	20	16—32	*
Kidney	140	140	21	21	*
Lima	117	100—155	19	16—21	*
String	119	90—160	18	10—21	*
Beets	111	84—140	17	6—21	*
Cauliflower	105	60—120	16	12—21	*
Cabbage					
Buttered	175	175	21	21	*
Creamed	108	90—140	16	10—21	*
Stewed	115	90—140	16	10—21	*
Carrots					
Buttered	194	84—120	17	16—21	*
Creamed	108	90—140	16	10—21	*
and peas	114	90—140	18	16—21	*

TABLE 3, Concluded

FOOD	WEIGHT OF FOOD		WEIGHT OF YEAST		MAXIMUM YEAST
	Average	Range	Average	Range	
Vegetables (Continued)					
	lb.	*lb.*	*lb.*	*lb.*	*oz./100 lb.*
Corn					
Creamed	104	40—171	16	8—21	*
Mexican	112	112	16	16	*
Whole kernel	108	80—144	16	10—21	*
Kohlrabi	108	108	16	16	*
Mixed vegetables	115	84—140	16	16—21	*
Onions, creamed	118	80—144	16	12—21	*
Parsnips	123	106—140	18	16—21	*
Peas					
Buttered	97	40—140	16	7—21	*
Creamed	122	110—140	19	16—21	*
Potatoes					
Au gratin	95	95	16	16	*
Creamed	102	75—160	16	8—21	*
Fried	70	70	16	16	*
Mashed	114	80—175	16	16—21	*
Sweet	100	80—120	21	21	*
Rutabagas					
Buttered	119	110—140	20	16—32	*
Mashed	125	120—130	16	16	*
Sauerkraut	84	30—120	15	6—16	*
Spinach	111	84—140	17	10—28	*
Squash	111	80—140	17	7—21	*
Succotash	128	80—175	18	10—21	*
Tomatoes, stewed	117	98—140	19	16—21	*
Turnips	123	110—147	17	16—21	*
Miscellaneous Foods					
Cream-of-Wheat	137	105—175	19	16—21	*
Oatmeal	141	120—150	19	16—21	*
Corn meal mush	136	120—160	17	16—21	*
Rice	151	120—160	16	10—21	*
Eggs					
Creamed	104	90—118	21	21	*
Scrambled	127	110—140	18	16—21	*
Cocoa	162	160—168	20	16—21	*
Fruit (stewed)					
Plums	70	70	9	9	*
Peaches	76	67— 84	16	11—21	*
Prunes	64	63— 65	19	16—21	*
Rhubarb	70	70	21	21	*
Puddings					
Custard	77	56— 98	16	10—21	*
Rice	119	119	12	12	*
Tomato juice	35	35	10	10	*
Baked Goods					
Bars					
Butterscotch	63	62— 65	8	6— 9	*
Date	42	40— 45	8	8	*
Breads					
Corn	64	56— 70	12	8—16	*
Coffee cake	56	56	8	8	*
Ginger	60	56— 63	20	8—43	*
Sweet rolls	35	35	8	8	*
White	82	35—150	30	10—45	*
Cake					
Butter cream	56	56	8	8	*
Chocolate	58	56— 95	9	8—16	*
Coconut	56	56	8	8	*
Devil's food	49	49	8	8	*
Jelly roll	16	16	4	4	*
Lemon	55	54— 56	8	8—12	*
Maple nut	50	49— 56	14	8—12	*
Marble	50	49— 56	14	8—12	*
Orange	52	49— 56	10	8—12	*
Poppy seed	66	56— 72	10	8—12	*
Short	40	40	4	4	*
Spice	50	49— 56	8	8	*
Cookies	30	30	16	16	*
Doughnuts	56	56	10	8—12	*
Muffins					
Bran	50	49— 64	10	8—12	*
Blueberry	53	49— 56	10	8—12	*
Corn	54	49— 60	8	8	*
Honey	48	45— 56	10	8—12	*
Malt-fruit	68	49— 90	7	4— 8	*
Pie					
Cherry	120	120	32	32	*
Chocolate	90	90	32	32	*
Coconut cream	112	98—125	8	8	*
Lemon	112	112	8	8	*
Pumpkin	106	98—112	8	8	*

*Undetermined.

Summary

The feeding of torula yeast in various foods was tested with 300 patients at Wisconsin's Winnebago State Hospital. Acceptability of the yeast-containing foods varied, but in general favorable reactions were recorded. Soups, meat casseroles, chili, gravies, tomato sauces, and vegetable dishes were especially well received. Thus, the addition of yeast to foods may be considered a practical way to increase protein in the diet.

No nausea, allergy, or vomiting was observed in the course of this investigation.

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How Should School Lunch Services Educate?

The school lunch service should be a developmental experience in children's education. How should schools use the school food services program to accomplish this major goal? I would like to list several objectives educators should have in mind for the school lunch program.

(1) We should provide nutritionally balanced, attractive, and well cooked meals, served in a pleasant and socially attractive environment.

(2) The school should have adequate physical facilities to permit the preparation and serving of meals under reasonably satisfactory conditions. The lunchroom should be large enough to permit meals to be served and eaten without undue crowding or haste. The class schedule should provide adequate time for each group, if two or more shifts must be provided for the lunch period.

(3) The school should improve pupils' health by serving nutritionally balanced meals, by developing in them habits of eating a variety of foods as they are served, and by making meals available to children unable to pay the usual price.

(4) There should be an organized program to use the school lunch as a curricular and developmental experience for children in at least the following ways:

a. Health classes should use the variety and amounts of foods served to illustrate the health value of nutritionally balanced meals. The importance of cleanliness in preparing and serving food, in washing of hands before eating, and of proper disposal of food wastes should be emphasized.

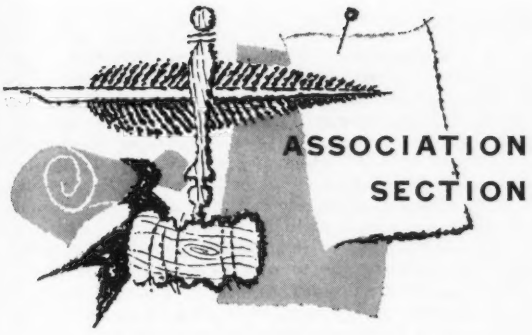
b. Science classes should find in the school lunch program many applications of proper food preservation, of precautions to prevent spoiling of cooked and/or prepared food, of the use of varying degrees of temperature and air pressures in cooking food, of the chemisty of food preparation, and so on.

c. Mathematics classes could alternate in selling tickets, in checking participation, in computing the monthly receipts and expenditures, and in calculating the per cent of expenditures represented by food, by donated commodities, and by labor.

d. Social science classes have opportunities to use school lunch meals for study of sources of our foods; the variety of vocations represented in food production, processing, and transportation; the value of school lunch foods in supporting various areas of our economy, and so on. The social sciences also may well use the school lunch in studying social customs of other peoples.

e. Art classes should assume responsibility of projects in providing table decorations. This will not only assist the school to develop better attitudes toward art, but will also improve social relationships during the lunch hour. Art classes may be consulted in the selection of eating utensils, such as plates, knives, forks, and spoons.

f. The school should assign definite responsibility to teach children desirable habits of eating, such as the proper use of eating utensils. —*From a talk by E. Allen Bateman at the National Conference on School Lunch and Direct Distribution Programs. In Washington, D. C., on August 27. 1957.*



Copher Award for 1958 Honors Helen A. Hunscher

ON OCTOBER 23. at the Annual Banquet of The American Dietetic Association, Helen A. Hunscher was named the recipient of the 1958 Marjorie Hulsizer Copher Award—the highest honor of the Association.

This Award was made possible some years ago by two anonymous gifts to Barnes Hospital in St. Louis for the purpose of perpetuating the name of Marjorie Hulsizer Copher. The interest from the fund goes each year to a person selected by the Executive Board of The American Dietetic Association, with the advice of the Director of Barnes Hospital. The Award is recognition of distinguished service to the profession of dietetics and represents the highest honor by which the Association recognizes its members. Presentation this year of the Award to Dr. Hunscher was made by Dr. Frank R. Bradley, Director, Barnes Hospital, who said:

Helen A. Hunscher is so well known to you that I can add little. However, you who have just entered the profession may not yet have had the inclination or leisure to read about your great leaders. Too, memory is fleeting, and some of us may have forgotten her major achievements.

Dr. Hunscher comes from pioneer stock. Halsey Gates, her great-grandfather, migrated from Connecticut to Ohio and settled in Connecticut Western Reserve in 1826, built a grist mill and a saw mill on the Chagrin River, 16 miles southeast of Cleveland, and served his fellow men and his country in that community, now known as Gates Mills, Ohio. I quote from an editorial for the JOURNAL by Icie Macy Hoobler[1]: "She has used to her advantage her heritage from pioneers and attained eminence as a student, as an investigator, and as a teacher of nutrition and dietetics as they pertain to health and welfare, especially of mothers and children. She is author or co-author of some fifty scientific papers. With her participation in the leadership of diverse local and national organizations, her experience constitutes fifteen years of grooming for the highest office of The American Dietetic Association." Dr. Hunscher lived up to Dr. Hoobler's expectation. Her year as president in 1947-48 was one of distinguished service. She has continued her contribution to your Association, serving presently as Chairman of the Committee to Study the Broadening of A.D.A. Membership.

A distinguished teacher and educator, Professor and Head of the Department of Home Economics at Western Reserve University, she is loved and respected by her students. In teaching home economics, one of her primary interests is the profession of dietetics, and it is therefore fitting that, added to all the recognition she has had for outstanding performance, she receive your highest award. Dr. Hunscher, it is with great and sincere pleasure that we welcome you to the ranks of those distinguished members of your profession who have received the Marjorie Hulsizer Copher award.

The Award presented to Dr. Hunscher reads: MARJORIE HULSIZER COPHER MEMORIAL AWARD . . . PRESENTED TO Helen A. Hunscher WHO WAS HONORED BY AND BROUGHT HONOR TO THE PRESIDENCY OF THE AMERICAN DIETETIC ASSOCIATION. HER BRILLIANT RESEARCH HAS ADDED KNOWLEDGE: HER WRITING CONTRIBUTES CLEAR UNDERSTANDING: HER TEACHING EXCITES EMULATION: TO THIS SHE ADDS VISION, THE TOUCH OF GENIUS, AND INSPIRATIONAL LEADERSHIP WHICH TRANSFORM THE SCIENCE OF NUTRITION INTO THE BROAD SOCIAL MOVEMENT TO IMPROVE HUMAN WELL-BEING.

In accepting the Marjorie Hulsizer Copher Award, Dr. Hunscher said:

Thank you. I appreciate the honor of having been chosen from the many others in this Association whom I would have selected had I been given the responsibility of choice. I am humble when I compare myself with others who have received the Copher award.

We are all the molded products of our rearing, education, and environment. First, my mother inspired and instilled a desire to be competent and responsible and to derive enjoyment from study and work. She emphasized participation in endeavors for the family, school, or worthwhile groups. I have finished many duties so far in my life because I could feel the gentle but firm hand of my mother on my back. Then, two people furthered this training by helping develop goals and by stressing that responsiveness to assignments in one's profession was an *essential.* These two molders are honored members of this Association, namely Dr. Lydia J. Roberts and Dr. Icie Macy Hobbler. If it seems worth while, "do it and get it done," is their philosophy. Furthermore, I am fortunate in having a husband who is interested and helpful in my responsibilities as well as patient and supporting in the trials of working during family spare time. Last and not least, the administration and particularly my own staff co-workers at Western Reserve University have encouraged and made professional work possible and expected.

The American Dietetic Association, as history shows, was founded and has been developed by women with vision, determination, and responsibility. This force has, and always will draw into the stream of work those who have been trained to be responsible. The responsible person is *responsive,* for the term itself derives from the Latin word "to answer." Further, there has existed in the members of this Association a moral responsibility which has impelled them to fulfill obligations even when failure to do so could go undetected.

Responsibility has been contagious, among the susceptible, in this Association. Attitudes and actions in-

[1]J. Am. Dietet. A. 23: 969, 1947.

fluence others on staffs where we earn our living as well as in local, state, and national dietetic associations. This is as it should be for professional learning and growth. The attitude that something can be done about a problem is one of value, but being willing to help, to say "I'll do my best," is the test of good citizenship anywhere. No professional, scientific, or community organization can operate without such responsive participants. The success of The American Dietetic Association and the prestige it has acquired heralds the happy fact that it has had and continues to have a good number (but must inspire more by magnetic professional force) to whom service is something more than just a word.

Much—much too much—has been said about what schools, universities, communities, and professional organizations should do *for* individuals and *for* groups. Little—far too little—has been thought and said about developing the self-starter and one with the perpetual personal drive to learn, to accomplish for himself, and to serve fellow workers and mankind. In our satellite and pushbutton worlds, we must still rely on the age-old sense of responsibility and self-drive to work. Individuals must develop more power and an inner urge to keep apace with the environment in all phases of living and working.

The assumption of group responsibilities must be shown not to be grim, hard, and carried out in solitude, but rather that it brings association with interesting, happy, and worthwhile individuals with fascinating personalities and ideas that give a richness to one's life by association and working shoulder-to-shoulder and brain-to-brain. Those who are willing to "let others do it" have no idea of the opportunities they have missed for their own self-development as a bonus to the accomplished professional project for the benefit of others. Many of us can think of opportunities for service and self-development either accepted or rejected. If we accept them, we're challenged and carry through our service to other members; we then have the satisfaction that only worthwhile work duly accomplished can give.

I am humble and grateful for this honor bestowed on me. I have done only what others prepared me to do, and to do with the splendid help of *many* fine individuals similarly ready to serve our profession. There are many whom I should name, but cannot because of time limitations. Each and all know who works for the Association.

I close with a little prayer used in our village church: "Teach us good Lord, to serve Thee as Thou deservest; to give and not to count the cost; to fight and not to heed the wounds; to toil and not to seek for rest; to labor and not to ask for any reward, save that of knowing that we do Thy will."

1958 Mary Swartz Rose Fellowship Goes to Aimee N. Moore

AT THE Annual Banquet of The American Dietetic Association in Philadelphia, on October 23, Aimee N. Moore was named for the second time the recipient of the Mary Swartz Rose Fellowship. In making the presentation, Dr. Charles Glen King, Executive Director, The Nutrition Foundation, Inc., said:

The search for ideas that guide people to their highest goals in life is at the very heart of good teaching. This relationship is quite as true in home life as it is in the classroom. Words for the task are never adequate. Symbols, poetry, art, stories, and examples of many kinds are used to impart to others what we mean. Perhaps no other example is quite so effective, however, as the actual life of a person. Insofar as we succeed in this highest of human endeavors, we lay the surest foundation for a better world. Respect for this relationship in society is fundamental in the qualifications for membership in a profession.

From discussions of this nature, the nutrition scientists and trustees who serve as advisors to The Nutrition Foundation decided several years ago to offer their support of a few selected awards to individuals who could in their own spheres of professional life illustrate the ideals most appropriate to their profession. The American Dietetic Association appeared to be the professional group most completely devoted to the task of seeing that people are properly fed. The members of this Association had been and continue to be outstanding in their service and sincerity. We are impressed, also, by the fact that many individual members are very active in research as well as in management and in education.

It seemed to us that the spirit of the award could best be interpreted in terms of a person whose lifetime accomplishments had expressed in living what words cannot do so well. Mary Swartz Rose, the first and beloved Professor of Nutrition at Columbia University, seemed to be the kind of individual whose record would interpret the award, both to the members of the Association and to the outside world.

Miss Moore, we congratulate you on being selected by your own peers to receive the Mary Swartz Rose Fellowship in 1958.

Miss Moore is working toward a doctoral degree in business management at Michigan State University. She previously received the Mary Swartz Rose Fellowship in 1956.

A.D.A. Fellowships and Scholarships Awarded

NINE ADDITIONAL recipients of fellowships and scholarships awarded for 1958-59 by The American Dietetic Association were named by Dr. E. Neige Todhunter, President of the Association, at the Annual Banquet in Philadelphia on October 23.

Mead Johnson Awards

Through a generous grant from Mead Johnson & Company, The American Dietetic Association offers annually six scholarships of $500 each to dietetic interns in an approved dietetic internship and two $1000 fellowships to graduate students in dietetics.

The Mead Johnson Awards for Advanced Graduate Education in Dietetics for 1958-59 were presented to:

Virginia R. Kroener, who is working toward the doctoral degree at the University of Wisconsin

June-Ann Krohn, who is studying at the University of California, working toward a master's degree.

The six recipients of the Mead Johnson Awards for Dietetic Interns for 1958-59, are:

Mary Barbara Emison, University of Kansas—intern at the State University of Iowa Hospital, Iowa City

Evelyn M. Flynn, graduate of the University of California—intern at Massachusetts General Hospital, Boston

Shirley Rose Goldstein, graduate of Simmons College—intern at State University of Iowa Hospital, Iowa City

Janice M. Jernigan, graduate of the University of Alabama—intern at the University of Oklahoma Medical Center, Oklahoma City

Annabelle Lee Marteney, graduate of West Virginia University—intern at State University of Iowa Hospital, Iowa City

Joan Reid, graduate of University of Wisconsin—intern at State University of Iowa Hospital, Iowa City

H. J. Heinz Company Award for 1958

A year ago at the Annual Banquet of the Association, B. D. Graham, Vice-President of H. J. Heinz Company, announced that his company, aware of the need for more dietitians and nutritionists, would award this year a scholarship in dietetics—the award to go to a college home economics sophomore planning to complete the curriculum in dietetics and nutrition. The award is to be made in two installments of $500 each, one in the junior year and one in the senior year. The recipient of this award is *Carol Jean West* of San Gabriel, California, who is a student at Cornell University, Ithaca, New York. Announcement of the award was also made by Dr. Todhunter as President of the Association.

Suzanne Faye Adams Wins Lydia J. Roberts Essay Award

Suzanne Faye Adams was named the seventh winner of the annual competition for the Lydia J. Roberts Essay Award at the Banquet of The American Dietetic Association on October 23, in Philadelphia. Announcement of the award, which carries with it an honorarium of $500, was made by Dr. E. Neige Todhunter, President.

The competition was begun in 1950-51, when the Gerber Products Company granted to The American Dietetic Association a sum of $500 annually for a five-year period to be awarded for the best essay on a specified subject in the field of the history of nutrition. This grant was renewed by the Gerber Products Company in 1956 for a second five-year period. The award was named to honor Dr. Lydia J. Roberts, pioneer in the field of infant feeding. Miss Adams' winning essay on "Development of the Use of Vegetables in Infant Feeding" will appear in an early issue of the JOURNAL.

The Lydia J. Roberts Essay Award will continue to be made for three more years. Details and rules of the competition appeared in the November issue of the JOURNAL. Subjects for the next three essays will be:

1958-59—The History of Dietary Use of Liver

1959-60—Changes in Beliefs and Food Practices in Pregnancy

1960-61—World Problems in Infant Care.

New Honorary A.D.A. Members

At the Annual Banquet of The American Dietetic Association in Philadelphia, on October 23, President E. Neige Todhunter announced that two distinguished nutritionists have been elected to honorary membership by the Association's Executive Board. They are: *Charles Glen King*, Ph.D., D.Sc., Executive Director, The Nutrition Foundation, Inc., New York City; and *Hazel K. Stiebeling*, Ph.D., Director, Institute of Home Economics, Agricultural Research Service, U. S. Department of Agriculture, Washington, D.C.

The plaque presented to Dr. King reads: IN RECOGITION OF HIS . . . OUTSTANDING CONTRIBUTIONS TO HUMAN NUTRITION AND BIOCHEMISTRY; ISOLATION OF VITAMIN C IN LEMON JUICE AND ILLUSTRIOUS CONTRIBUTIONS TO OUR KNOWLEDGE OF THE CHEMISTRY OF MANY OTHER FOOD CONSTITUENTS; EMINENCE IN THE EXTENSION OF RESEARCH IN MANY PHASES OF FOOD TECHNOLOGY AND BIOCHEMISTRY; AND ACHIEVEMENTS AS A LECTURER, TEACHER, AND WRITER. IN APPRECIATION OF HIS . . . ESTEEMED LEADERSHIP IN MANY PROFESSIONAL ORGANIZATIONS AND HIS SPECIAL INTEREST IN THE ACTIVITIES OF The American Dietetic Association; AND UNTIRING INTEREST AND MERITORIOUS CONTRIBUTIONS IN IMPROVING THE NUTRITION AND WELL-BEING OF ALL MANKIND.

Dr. Stiebeling's plaque reads: IN RECOGNITION OF HER . . . PIONEER WORK IN APPRAISING DIETS AND APPLYING THE RESULTS TO IMROVE THE NUTRITION OF THE AMERICAN PEOPLE AND TO AID IN SOUND AGRICULTURAL PLANNING; PRACTICAL GUIDANCE GIVEN TO FAMILIES BY DEVISING FOOD PLANS FOR ADEQUATE DIETS AT DIFFERENT LEVELS OF COST; LEADERSHIP IN WORKING TOWARD BETTER NUTRITION FOR INDIVIDUALS, FAMILIES AND NATIONS; AND STANDARDS OF EXCELLENCE AS A PROFESSIONAL WOMAN, A SCIENTIST, AND AN ADMINISTRATOR. IN APPRECIATION OF HER . . . VISION IN ANTICIPATING THE FOOD PROBLEMS AND NEEDS OF FAMILIES AND DIRECTING RESEARCH TOWARD MEETING THESE NEEDS: SERVICE IN WORKING TOWARD BETTER NUTRITION ON A GLOBAL SCALE: AND CONTRIBUTIONS TO ALL PHASES OF OUR DIETETICS PROFESSION.

The American Dietetic Association now has seven honorary members. The others are:

MARTHA M. ELIOT, Chief, Children's Bureau, Department of Health, Education, and Welfare, Washington, D. C.

STUART B. FOSTER, Ph.D., Professor and Head,

Department of Chemistry, Massachusetts State Teachers College, Framingham

LEONARD A. MAYNARD, Ph.D., Professor Emeritus of Biochemistry and Nutrition, New York College of Agriculture, and former Director, Graduate School of Nutrition, Cornell University, Ithaca, New York

E. V. McCOLLUM, Ph.D., distinguished scientist and Professor Emeritus of The Johns Hopkins University, Baltimore

A. L. PARSONS, M.D., of Louisville, Kentucky, formerly associated with Walter Reed General Hospital, Washington, D. C.

View From the Mountain "Premiered" in Philadelphia

Feature attraction of the Annual Banquet of The American Dietetic Association held on October 23 in Philadelphia was the premiere showing of the Association's new recruiting film, "View from the Mountain." Presentation of the film to the Association was made by B. D. Graham, Vice-President of H. J. Heinz Company, who said, in part:

Last year in Miami I had the pleasure of announcing that Heinz would underwrite the cost of production of a much-needed recruiting film for The American Dietetic Association. It was our hope, along with yours, that this film would help to attract intelligent, capable students to training for dietetic work in the nation's hospitals. Tonight, it is our pleasure to present to The American Dietetic Association "View from the Mountain," your Association's first motion picture. When you see it, I am sure you will agree with me that we have every reason to be proud of it because of its informational content, its authenticity, and its appeal.

The content of the film was determined by the A.D.A. Public Relations Director, Thelma Pollen, and the Association's Film Advisory Committee, the members of which were: Dr. Doris Johnson, Grace-New Haven Community Hospital, New Haven, Connecticut; Madge Myers, Peter Bent Brigham Hospital, Boston; Dr. Beatrice Donaldson, University of Wisconsin, Madison; and Margaret Hinkle, formerly at the State Institute of Psychiatry, University Health Center, Columbus, Ohio.

Aiding and encouraging the committee were the staff of Wilding Picture Productions, Inc., and the people at Heinz. The writer of the script, John Davenport, and the producers of the film, John Logue and Carl Kiechenmeister — all of Wilding Productions—of course, played a major role in the production. Alvin Adams at Heinz served as an able liaison representative between the Heinz Company, Wilding Productions, and the Association.

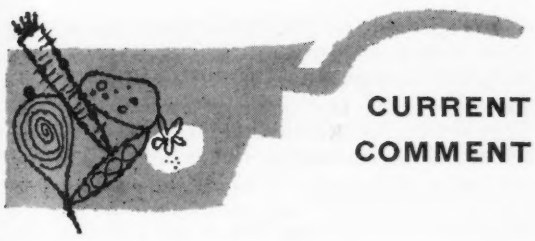
The goal of all of these workers was to have an effective, motivational film, one which would depict dietetics in its rightfully important and attractive light, and one which would influence promising young people in choosing a career in this field. A wise decision was made in favor of a combination of story and documentary formats. The problem in the plot concerns a young man's failure to appreciate the importance of his fiancee's chosen profession. The girl is a dietetic intern. Her handling of the situation shows great promise for her future as a competent dietitian.

We feel that our end product, "View from the Mountain," is an impressive one—that it should be a forceful tool in your recruiting efforts. It supplies a tremendous amount of information in a palatable manner, yet the message is strong and clear.

You may be interested in knowing that "View from the Mountain" is the first, or one of the first, productions in which Ektachrome film has been used by a commercial motion picture company. Of this we *are* sure; our film is the first use of this film made by Wilding Picture Productions, Inc. I am told that because of the use of Ektachrome, we have a product which has established a new standard of excellence in color and sound.

Fifty prints of the film have already been mailed to the various regional offices of the company which is handling the distribution of loan prints. They are now yours. We hope that you will promote the showing of "View from the Mountain" with the same enthusiasm and zeal that your committee used in promoting and directing its production. It was because of this enthusiasm, we believe, that the film is as warm and personal, yet as instructive as it is. We feel confident that it will be a very real help to you in directing young people of high caliber into your profession. Good luck to you in your important recruiting activities.

. . . . It is not desirable that we think alike, but it is desirable that we think together.—George W. Northup, D.O., President of the American Osteopathic Association. J. Am. Osteopath. Assn. 58: 5 (Sept.), 1958.



CURRENT COMMENT

Elmer V. McCollum, The Abe Lincoln of Science

In its May 1958 issue, The Johns Hopkins Magazine *published an inspiring portrait of Elmer V. McCollum, under the title, "The Abe Lincoln of Science." Written by Thelma S. Nason, this article contains many sketches of this renowned nutritionist. Because of its pertinence to the field of dietetics, Mary P. Huddleson, former Editor of this* JOURNAL, *has noted the following excerpts as being of special interest. They are reprinted here with permission of* The Johns Hopkins Magazine.

. . . HIS OFFICE since retirement as head of the Department of Biochemistry, a position he held for twenty-seven years, is in an obscure corridor near the main reading room of the Johns Hopkins Library. A former associate says it is typical of Dr. McCollum that he preferred to remove himself, upon retirement, from the environs of the School of Hygiene. "He felt his successor would be more comfortable without McCollum breathing down his neck."

The office is typical of its occupant. Bound volumes of scientific journals line the walls. An old desk, a worn but comfortable-looking brown couch, and two gray twist rugs, curling slightly upwards at the edges, are the principal furnishings. The room is filled with gadgets . . .

Turning to books has always been the McCollum reaction to new learning situations. As a small boy in the 1880's, growing up on a homesteader's farm in Kansas, he frequently found himself hungering for more information than either parents or his teachers could give him. The one-room schoolhouse, about a mile from the McCollum farm, housed a jumble of grades and ages. The teacher was only sixteen years old, a neighbor's daughter with little more education than her pupils.

"I remember learning to spell cinnabar and plumbago," Dr. McCollum recalls. "But nobody told us what they meant."

The one-room schoolhouse had its advantages, however. Young McCollum kept himself busy during school hours listening to the lessons and drills of all eight grades. "It was a good thing for me that unsuccessful farmers from elsewhere settled in our area. They brought McGuffey's Readers with them, and I used to borrow and read them. I had already gone through the Appleton series used in our school. I read everything I could borrow, instead of doing my lessons." His imagination was stirred by a geography book someone let him see, and as a result there was a period when he dreamed of going to Canada and becoming a fur trapper. Reading, for Dr. McCollum, has never been merely a passive process of absorbing and digesting information. Books are his stimulant. As he reads, he meditates, weighs, correlates—and then, perhaps, takes off on a tangent, or perceives a possible relationship between events where none was apparent before. Dr. Park, his collaborator in discovering the antirachitic factor in food, vitamin D, has said that Dr. McCollum is the most "thoughtful" man he has ever known. "I could go to him on any subject—*any* subject—and I would find him informed and suggestive. A very capacious mind with a tremendous fertility of imagination."

Work at the University of Wisconsin

Organic chemistry had been his passion since his first acquaintance with the subject in his sophomore year at the University of Kansas. In 1904, he started graduate work with T. B. Johnson, a noted organic chemist at Yale. As Dr. McCollum sees it, the graduate student is essentially an apprentice working under a master to learn his craft. Independent research work should wait until the apprentice has earned his degree. Two years later, as a fledgling Ph.D., he could find no opening in his specialty. He decided to stay on at Yale for another year of work with Professor Mendel who taught what was then called physiological chemistry and subsequently relabelled biochemistry. Mendel was the great teacher of a long list of outstanding biochemists of the next generation. It was a profitable year, but still no position opened up in organic chemistry. Having married and feeling the need of a paying job, Dr. McCollum settled for an offer from Wisconsin, where a young man was needed with training in biochemistry and an interest in animal nutrition.

Despite his Ph.D. from Yale's Sheffield Scientific School and a year's postgraduate work with the great biochemist, L. B. Mendel, he remembers he felt like a novitiate in a new order. His change of specialty had been dictated by economics, and Dr. McCollum felt shaky about the whole venture.

. . . In the early 1900's, experimenters were more concerned with the proper feeding of animals than with the feeding of humans. The study of human nutrition was appallingly primitive.

The Ladies' Home Journal, an accurate cultural barometer, showed surprisingly little interest in food and the relationship of food and health. Among

the many pages devoted to women's fashions and romantic fiction were a few articles on the economics of food preparation. Suggestions for the day-to-day planning of healthful meals were noticeably lacking; instead, there was a dire warning in the June 1910, issue that "those who drink milk at mealtimes are sure to be dyspeptic." Milk, in fact, was not recommended except as an accompaniment to cereal.

McCollum's ten years of experimentation at Wisconsin changed our whole attitude toward food. The folklore and superstitions surrounding food began to evaporate and were replaced by solid scientific facts.

McCollum was the first man to demonstrate beyond a reasonable doubt the existence of a hitherto unsuspected fat-soluble nutrient, vitamin A, essential for health and growth.

Discussing these fruitful years, Dr. McCollum waves his large hands in a gesture of impatience with himself. As a Kansas farmer, he says, he should have been able to fathom the puzzling results obtained in the original cow-feeding experiments. The answer was so obvious: the wheat-fed cows received grain which had been purchased, and wheat straw supplied by farmers near Madison. In threshing, the leaves of the wheat were broken to bits which were not picked up with a pitchfork when straw was loaded for delivery. Hence these cows were given no leaves. "Now we know that the leaf is very nutritive," he says, "but we didn't know it then."

Dr. McCollum's discovery that vitamin A is present only in certain fats struck a vital blow at the fortress of entrenched doctrine. One of the pillars was demolished: the myth that all fats are of equally nutritive value. Not so.

A Lecture to the Ladies

After years of experimentation with rats, using the biological method he introduced, McCollum had become openly critical of the standard American diet. His radical views on nutrition began to spread beyond the University of Wisconsin campus. In 1914, he was invited to address a woman's club in Madison . . . He informed the ladies that their families were being offered inadequate nourishment; his rats could not subsist on such a diet. He stressed the importance of leafy vegetables, fresh fruits, and glandular meats in the daily menu, and extolled the many virtues of milk. His recommendations, subsequently repeated in other lectures and eventually incorporated in *The Newer Knowledge of Nutrition* (1918), became the basis of the *Basic Seven Foodstuffs*, the recommended guide to menu planning publicized by the U. S. Department of Agriculture.

The immediate aftermath of the lecture was quite different, however, from that which Dr. McCollum experienced in the long run. Returning home after his talk, McCollum received a phone call from the chairman of the University's bacteriology department, who tongue-lashed McCollum for preaching such utter nonsense. "After that," Dr. McCollum says, "whenever we met on the campus, he would stare at me disparagingly. I always felt that he was saying, under his breath, 'You poor fool.' "

The Vitamin Era

Thus opened the Vitamin Era in the United States.

Without question, vitamins are big business today, and Dr. McCollum, whose mission in life has been to promote good health through proper eating ("First eat what your body needs, then what you want," is a popular slogan he coined in 1918), is somewhat vexed by the unexpected turn of affairs. In early 1940, he valiantly fought—and lost—the "Bread in Richmond" battle, in which he heatedly opposed government sanction of the label "enriched" for bread that was actually impoverished through processing. Although he favors the refinement of wheat, there is something wrong, in his opinion, with "milling out of wheat thirty or more products, then adding four products and calling the result 'enriched.' "

Vitamin salesmen have gone overboard, he feels: many of them, he says, "are the lineal descendants of the men who used to sell golden elixirs and true Indian remedies."

Nutritional Experience Even as an Infant

As Dr. McCollum reminisces, comfortably seated in his desk chair yet never slouching . . . his speech is a blend of scientific terms, scholarly references, nineteenth century English, and rustic expressions. . . . With relish, Dr. McCollum relates his close brush with death as a baby, and how "Mother and I started our experiments in nutrition early." The neighborhood women were convinced that cow's milk for babies meant certain death, although they did not trace the killer to the dirty barns and unwashed milk containers. For some reason, Mrs. McCollum decided when she weaned her son, to feed him potato soup, made with boiled milk, and chicken broth. At ten months, he was a very sick baby. One day, trying to quiet him while fixing an apple pie, she gave him some apple scrapings to chew on; he liked them and grew quieter, so his mother continued to feed him apple scrapings regularly. Within a few days he had recovered from his illness. This was in 1880. Three and a half decades later, the sickness would have been recognized as stemming from a lack of vitamin C.

Education under Difficulty

The McCollums were determined that their children would have a better education than they had had. Dr. McCollum's mother, whose only formal training

had been two years at a small country school, had a deep respect for education, and his father had a great hunger for it. Dr. McCollum remembers his father as a "quiet, mild-mannered man with an unusual curiosity for a farmer. He wanted to know all sorts of things, but he had nothing to read. If he could have had a copy of a good book on physics, it would have opened his eyes. Anything in the way of curiosity, I inherited from him."

When Elmer McCollum was eleven, he had to leave school and fill his father's place on the farm. "It's a long day behind the plow for a boy of eleven," Dr. McCollum recalls, "and so—since I had always had an appetite for poetry—I used to recite poems to myself from Appleton's and McGuffey's. Got to know several pieces that way."[1]

Today, says his wife, you can start him on any line in Shakespeare and he'll finish the speech, then identify the act and scene. Dr. Park was once surprised to find Emily Dickinson's works on his desk. "Do you like poetry?" he asked. "Oh, I love her," Dr. McCollum earnestly replied.

Despite the family's poverty, Mrs. McCollum followed her plans for the children's education. At seventeen, Elmer McCollum entered high school. He was very clear about his goals: to help support his family and to make a good record at school. His capacity for work, sustained by strong self-discipline, was developed during the eleven years he struggled to acquire an education. His first job was as a newsboy. More money was needed at home, so he became a lamplighter. Usually he had been up for several hours distributing papers before dousing the street lights in the early dawn.

. . . He still worked hard at Yale, but life was a little easier. He discovered that tutoring was a lucrative sideline and managed not only to support himself but to send money home. By the time he left Yale, he had saved $1,500.

"The good life," Dr. McCollum remarks, "is when you're tied to an enterprise and have to work hard. When I was doing experimental work, I never felt that I had a job. I was doing something I enjoyed very much."

Move to Baltimore

He needed and welcomed new challenges and thrived on measuring up to them. He was excited by an invitation, in 1917, to come to Johns Hopkins as chairman of biochemistry at the new School of Hygiene and Public Health. Dr. McCollum's research work benefited from the close contact with medically trained workers. In 1922, Dr. McCollum and his associates, Park, Shipley, and Simmonds, announced the discovery of a new fat-soluble vitamin, abundant in cod-liver oil and a preventive of rickets, which, being the fourth vitamin to be found, was labeled vitamin D.

What Dr. McCollum regards as his major contribution, the biological method, has helped to open vast new areas to basic research. Biochemists, who fifty years ago spent their time analyzing urine and blood specimens, are now studying complex metabolic processes at the enzyme level. The answers to today's major diseases—coronaries, cancer, and mental illness—may be found. "Pathological problems will resolve into biochemical problems at the cellular level," Dr. McCollum predicts.

The Retirement Years

Dr. McCollum has known the fulfillment granted to few pioneers: having his work recognized and honored during his lifetime, and living to see society reap the benefits. Yet in 1944, facing retirement, he was afraid that he might be put on the shelf, forgotten, ignored, unneeded. And what would he do with all his free time?

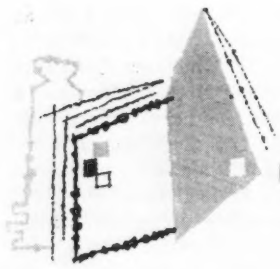
For years he had balanced a heavy schedule—research (the discovery of vitamin D was followed by trail-blazing investigations revealing the importance of the inorganic elements, the "trace elements" in nutrition), teaching, and administrative duties at Johns Hopkins; speaking engagements; monthly contributions to *McCall's* and the family duties of a father of five.

Fortunately the reality of retirement has differed from Dr. McCollum's fearful anticipations. The years have been filled with activity: preparation of his new book, *A History of Nutrition*, for example.

People continue to come to see him. Probably this is what pleases him most. He also takes on an occasional speaking engagement . . . His continued attraction for people of all ages was summed up recently by a close associate: "He always made you feel like a person—no matter who you were."

"I made myself a promise this morning," he told a visitor not long ago. "After I finish the two articles I am working on now, I'm through with the history of nutrition. I want to spend my time thinking about the *new* developments; about the future . . . I am a man who's always liked constructive reverie."

[1]Dr. McCollum reports that he could recite not only every poem in both Appleton and McGuffy, first to fifth readers, but also the long poems of Longfellow, Whittier, Walter Scott, and others, which he learned from small paperback books brought home by his sisters from college. He writes that, "When I entered the University of Kansas, I believe I could have recited more poems than all the faculty members in the University together."



BOOK REVIEWS

Nutrition and Diet Therapy for Practical Nurses. By Lillian Mowry. St. Louis: The C. V. Mosby Company, 1958. Simulated leather. Pp. 165. Price $2.50.

This book is made up of two sections. The first deals with nutrition, the second with diet therapy, just as the title of the book indicates.

The unit on nutrition includes a chapter on the importance of a balanced diet, one chapter each for the food nutrients, nutrition for the various age groups, digestion, planning menus for the family, and sanitation.

The unit on diet therapy covers routine hospital diets, some modifications in individual nutrients as well as diets for diabetes, obesity, low-sodium, allergy, and ulcer management.

The book is full of factual information, and the author has done a good job of condensing the material into a small volume. It is an excellent reference book. The facts on nutrition and diet are taken from reliable sources, and anyone teaching practical nurses could use it to advantage.

It is this reviewer's opinion that the nutrition unit will not appeal to the practical nurse and stimulate her interest in good nutrition because the technical material is rather detailed. A less formal style of presentation, deleting the detail figures, would improve the usefulness of this section. Since modified diets always have appeal to lay people, this area with all its detail will undoubtedly be used. The diabetic treatment is based in the exchange system, and the composition of the food groups and the lists are included. Sample menus and lists of foods to use in the modified diets are included.

The chapter on obesity is generous in sample diets. All of this is helpful to a teacher with little or no background in hospital dietetics; however, it is doubtful if the practical nurse will use it wisely or learn to use wisely the detailed information given in the unit on nutrition.

The calorie chart is good, as is the glossary.

As a reference book for the teacher of practical nurses, this should prove valuable.—*Kathryn W. Heitshu, Director of Dietetics, Medical College of Virginia Hospitals, Richmond.*

Food Guide and Quantity Cooking for Young Children. By Community Council of Greater New York. New York: Harper & Brothers, 1958. Cloth. Pp. 189 Price $4.95.

This book is highly recommended for persons engaged in group feeding of young children. It is written in a clear, easily understood manner and makes readily accessible a wealth of valuable information. An outstanding feature of this book is the philosophy which the authors impart to the reader: food is a part of daily living; it offers an opportunity for sociability, security to the child, and a means for developing desirable permanent eating habits as well as providing for optimum growth. The use of simple, easy-to-handle foods served in a comfortable setting is encouraged.

The basic principles of menu planning, meal service, food preparation, food purchasing, food storage, and sanitation are presented so that they serve as a guide to the inexperienced and as a ready reference to those who have had experience in child feeding. Useful suggestions for housekeeping, staffing for food preparation, equipment and maintenance are given effectively.

Throughout the book there are a variety of tables that substantiate basic principles and may be used as a handy reference. Some typical examples include: tables of the daily food needs of children, seasonal menus, how to purchase foods, and suggested personnel for nursery schools of various sizes.

A section of appealing recipes using the simple foods suitable for the young child is included. The directions are easy to follow, and quantities are specified for 15, 30, or 45 children.

The authors are to be commended for the preparation of such a complete and useful guide. One might easily recommend that a copy be available to all nursery school directors. While this book has been planned for use by nursery school directors, the contents may also be used advantageously as a helpful guide by the nutritionist or dietitian engaged in offering dietary consultation in other group feeding settings.—*Roberta A. Lyles, Chief, Nutrition Section, Chicago Board of Health.*

RECENT BOOKS RECEIVED

Calcium Metabolism. By J. T. Irving, Ph.D., M.D. New York: John Wiley & Sons Inc., 1957. Cloth. Pp. 177. Price $2.75.

Polyscience. By Frank H. Kelly, M.D. New York: Vantage Press, Inc., 1958. Cloth. Pp. 146. Price $2.95.

New and Nonofficial Drugs—1958. Evaluated by A.M.A. Council on Drugs. Philadelphia: J. B. Lippincott Company, 1958. Cloth. Pp. 645.

Clinical Enzymology. By Gustav J. Martin, Sc.D. Boston: Little, Brown and Company, 1958. Cloth. Pp. 241. Price $6.

Home Economics Careers for You. By Velma Phillips. N.Y.: Harper & Bros., 1957. Cloth. Pp. 278. Price $3.75.

Food Preparation. By Martha E. Dresslar and Mary Skattebol. Seattle: Univ. of Washington Press, 1957. Paper, spiral bound. Pp. 82. Price $3.

Biochemistry and Human Metabolism. Third edition. By Burnham S. Walker, M.D., Ph.D., William C. Boyd, Ph.D., and Isaac Asimov, Ph.D. Baltimore: Williams & Wilkins Co., 1957. Cloth. Pp. 937. Price $12.

Veterinary Toxicology—Formerly Lander's Veterinary Toxicology. By R. J. Garner. London: Bailliere, Tindall and Cox, 1957; U.S. distributor, Williams & Wilkins Co., Baltimore. Cloth. Pp. 415. Price $7.50.

Menu Maker and Party Planner. By Elizabeth Hedgecock Sparks. Kernersville, North Carolina: The author (Box 413), 1957. Cloth. Pp. 292. Price $2.95.

Atomic Energy in Agriculture. By William E. Dick. N.Y.: Philosophical Library, 1957. Cloth. Pp. 150. Price $6.

Buffet Catering. By Charles Finance. New York: Ahrens Publishing Company, Inc., 1958. Cloth. Pp. 256. Price $12.

Italian Food. By Elizabeth David. New York: Alfred A. Knopf, Inc., 1958. Cloth. Pp. 322, plus xvi. Price $5.

Thirst. Physiology of the Urge to Drink and Problems of Water Lack. By A. V. Wolf, Ph.D. Springfield, Illinois: Charles C Thomas, 1958. Cloth. Pp. 536. Price $12.50.

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BIOGRAPHICAL NOTES FROM THE HISTORY OF NUTRITION

Louis Pasteur—December 27, 1822–September 28, 1895

The story of Pasteur has been told many times, but it is a story that should be retold everywhere to every succeeding generation. So great was his contribution to medical science, public health, agriculture, and food preservation that he is rightly called "Humanity's Great Benefactor." He was a man of simplicity, deeply religious, intensely serious, sympathetic for the suffering of others, generous, and truly noble. These words in any other instance might be taken for granted as being the usual eulogistic exaggeration. In Pasteur's case, they were true and earned for him the tribute, "the most perfect man who has ever entered the Kingdom of Science."

Microscopic forms of life began to be studied in the seventeenth century, and Leeuwenhoek with his microscopes is a familiar figure, but the full recognition of, and belief in, the world of germs did not come until two centuries later, through the work of Pasteur. The battle of spontaneous generation is old in science, and it continued until Pasteur settled it once and for all (1861) with his flasks with their long, thin, curved necks which exclude bacteria but permitted air to enter. Pasteur's carefully planned experiments finally convinced even the most prejudiced and skeptical of scientists.

His germ theory of disease was not readily accepted, but in Scotland, Joseph Lister applied these theories for the first time, made surgery safe, and introduced the new era of antiseptic procedures in hospitals. Lister always acknowledged the debt he owed Pasteur. It must have been a dramatic moment and a memorable scene in the history of science and medicine when Lister, world famous surgeon, and the great Pasteur embraced on the occasion of the international celebration in Paris of Pasteur's seventieth birthday (December 27, 1892).

Louis Pasteur was born December 27, 1822, at Dole in the Jura, France, the son of Jean Joseph Pasteur, a tanner and former sergeant in Napoleon's army. The family moved to Arbois soon after the birth of Louis. There he went to school, and then to college at Besacon some 30 miles away. He obtained his Bachelor of Science degree from Besacon and in 1842, he went to Paris to study. There he heard Dumas lecture on chemistry; his interest was aroused, and he set his heart on being a chemist. He obtained his Doctor of Science degree from the Ecole Normale (1848) and was appointed Professor of Physics at Dijon. The next year he became Professor of Chemistry at the University of Strassburg and there he met the daughter of the president of the faculty, Marie Laurent. She became his wife and devoted helper. Two years later he was Dean and Professor of Chemistry at Lille, where he remained three years before being called back to Paris as Director of Scientific Studies at the Ecole Normale (1857-63); then Professor of Geology and Chemistry at Ecole des Beaux Arts (1863-67); Professor of Chemistry at the Sorbonne (1867-89); and finally Director of the Pasteur Institute (1889-95).

The dates and positions a man holds are easily listed; so are his major achievements. Pasteur first won recognition when he was twenty-six years old (1848) and demonstrated molecular dissymmetry in tartaric acid, thus giving rise to the new science of stereochemistry. This was followed by studies on fermentation (1857); spontaneous generation (1862); diseases of wine (1863) (by heat sterlization, parasitic growths which spoiled the wine were destroyed, and this procedure is now applied to perishable foods and known as pasteurization); diseases of silkworms (1865); microorganisms in beer (1871); the virulent diseases of anthrax and chicken cholera (1877); preventive vaccination (1880); and hydrophobia (1885). But these do not tell of the wonderfully imaginative mind at work with never-ending patience and persistence, nor of the discouragements and opposition he suffered.

These few lines cannot tell the story of so great a man; but they will have been worth while if they stir the reader to seek out *The Life of Pasteur* and read there the whole story.

REFERENCE: Vallery-Radot, R.: The Life of Pasteur. Garden City, New York: Doubleday, Page & Co., 1923.—*Contributed by E. Neige, Todhunter, Ph.D., Dean, School of Home Economics, University of Alabama, Tuscaloosa.*

News Bulletin

Volume I ECONOMICS LABORATORY, INC. 250 Park Ave., New York 17

GREATEST BREAK-THROUGH IN DISHWASHING CHEMISTRY

★ ★ ★ ★ ★

Wash Pressure Now Chemically Controlled

SCORE* and EVENT* Called Biggest Development Since Introduction Of Polyphosphates

Detergents are exclusive products of Economics Laboratory

SCORE and EVENT are chemical formulas developed by Economics Laboratory to maintain constant wash pressure in dishwashing machines—this means now for the first time a dishwashing machine can be operated close to its maximum efficiency.

Until recently no one really knew what went on inside a dishwashing machine. Chemists at Economics Laboratory found out.

A dishwashing machine in good operating condition with only clean hot water will remove a great part of the gross food soil. Final removal of soil must be accomplished through the use of a good detergent at the right concentration.

However, as food soil is added to the wash water during the washing period, the less effective the machine becomes because wash pressure is reduced.

This drop in pressure was commonly thought to be due to poor pump action or clogged wash arms, but wash pressure problems are not confined to these mechanical defects.

Economics Laboratory chemists discovered that an "aerated solution"—a wash solution with many small air bubbles in it—can be just as serious as these mechanical defects. As a result of foaming or "aeration", the ability of a dishwashing machine to remove gross soil can drop 40 to 50 per cent. This "aeration" is difficult to detect by the operator.

This is what SCORE and EVENT do. They control "aeration" and foaming. SCORE and EVENT solve the problem of depressed wash pressure. *These* exclusive new detergents and only these, *control wash pressure chemically.*

SCORE* and EVENT* cut operating costs

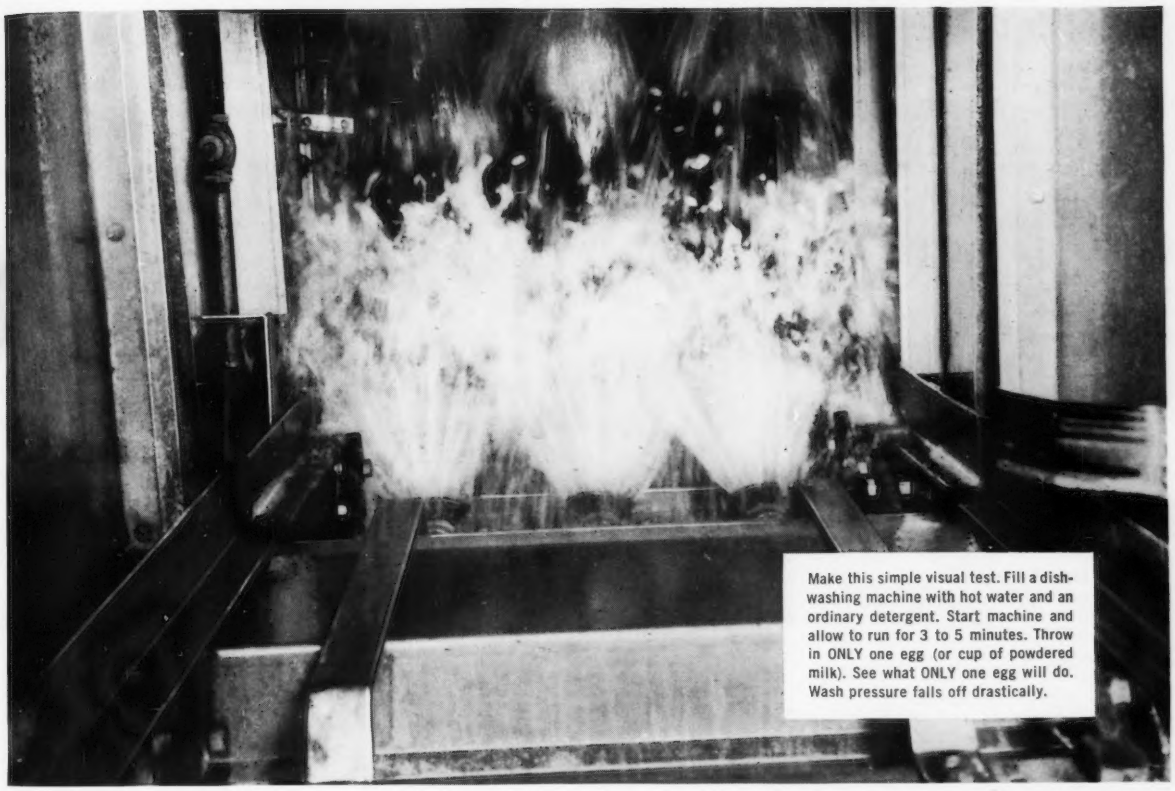
SCORE and EVENT have qualities not found in ordinary detergents:

1. A unique ability to maintain normal wash pressure under various soil and operating conditions.
2. Allow machines to run close to maximum efficiency at all times.
3. Enable more rapid drying.
4. Eliminate or minimize spotting and streaking.

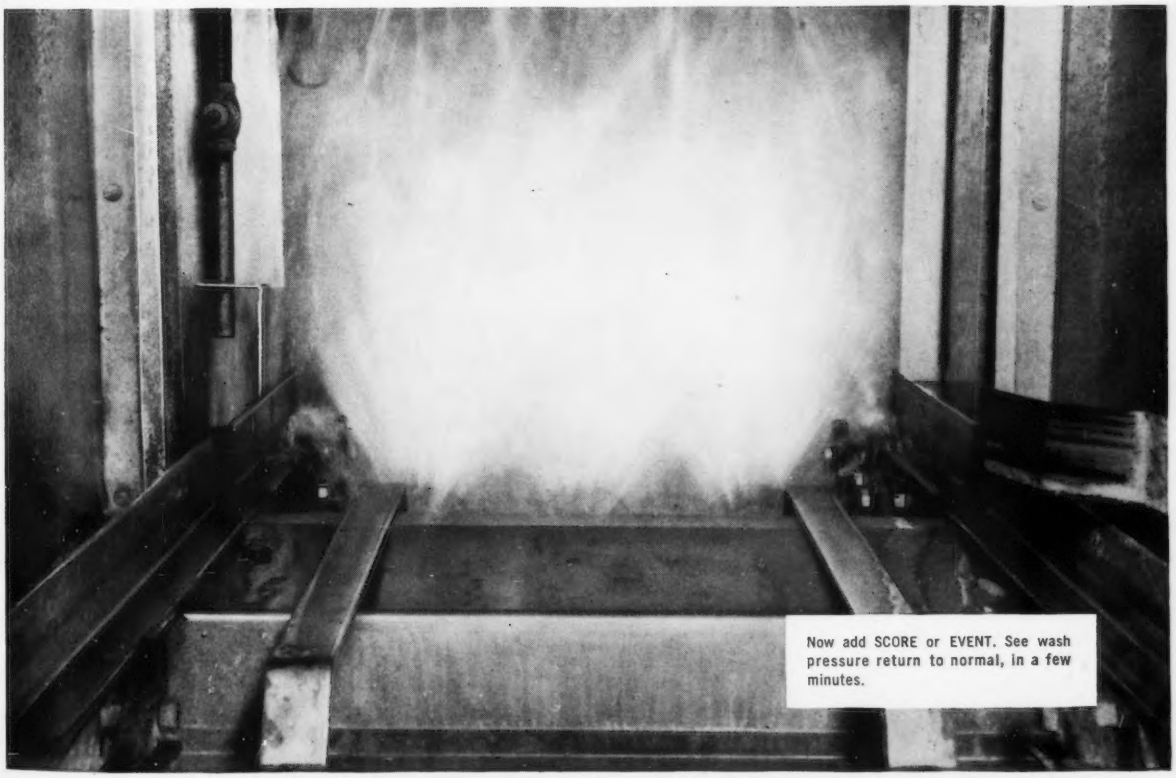
The result is maximum dishwashing efficiency at lower operating costs.

*Patents pending.

TRY THIS SIMPLE VISUAL TEST YOURSELF...



Make this simple visual test. Fill a dish-washing machine with hot water and an ordinary detergent. Start machine and allow to run for 3 to 5 minutes. Throw in ONLY one egg (or cup of powdered milk). See what ONLY one egg will do. Wash pressure falls off drastically.



Now add SCORE or EVENT. See wash pressure return to normal, in a few minutes.

Proteins Major Cause of Aeration or Foaming

Foam and aeration of wash solution can cause tremendous loss of wash pressure and cleaning action in dishwashing machines.

Fats have been commonly thought to be the most serious cause of aeration or foaming, but chemists at Economics Laboratory found that other food soils, especially proteins—eggs, meat, potatoes—are far more important than fats in causing wash pressure loss.

If you serve eggs, meat or mashed potatoes—milk and flour gravies too—your dishwashing machine will not operate at normal efficiency with ordinary detergents.

SCORE and EVENT have been specifically developed by Economics Laboratory to maintain the normal wash pressure in dishwashing machines under various soil and operating conditions. They eliminate aeration or foaming caused by food soils from proteins or fats.

SCORE* and EVENT* Scientifically Developed

EXCLUSIVE WITH ECONOMICS LABORATORY

SCORE and EVENT have been scientifically developed and thoroughly tested by experts in the laboratory and in the field.

SCORE is a heavy duty detergent, for medium to hard water areas containing metal-protective properties.

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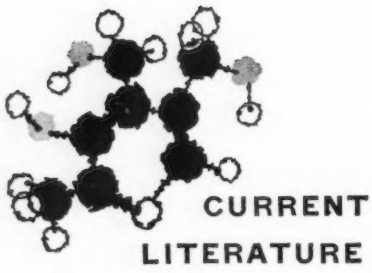


CURRENT LITERATURE

Contributed by Janette C. Carlsen, The Johns Hopkins Hospital, Baltimore; Clara Karl, University of Chicago Clinics; Elizabeth Tuft, Chicago Wesley Memorial Hospital; and the Journal staff.

THE AMERICAN JOURNAL OF CLINICAL NUTRITION

Vol. 6, September–October, 1958

*Nutritional studies of vegetarians. III. Dietary levels of fiber. M. G. Hardinge, O. C. Chambers, H. Crooks, and F. J. Stare.—p. 523.

*Metabolic studies of mongoloids. S. N. Gershoff, D. M. Hegsted, and M. F. Trulson.—p. 526.

*"Saturation" studies with vitamin B_{12} in human subjects. W. G. Unglaub, O. N. Miller, and G. A. Goldsmith.—p. 535.

*Caloric equivalents of gained or lost weight. M. Wishnofsky.—p. 542.

*Adapting therapeutic diets to the eating patterns of Italian-Americans. M. Cantoni.—p. 548.

Fiber in Vegetarians' Diets. This study deals with the fiber content of the diets of pure vegetarians, lacto-ovo-vegetarians, and non-vegetarians. The results indicate that lacto-ovo-vegetarians consume significantly more fiber than non-vegetarians, and that pure vegetarians significantly more than lacto-ovo-vegetarians. The generous intake of fiber in the diet of vegetarians for long periods, and even for lifetimes, appears wholly compatible with normal functioning of the gastrointestinal tract. Since constipation was practically unknown in all dietary groups, it would appear that even the lower fiber content of non-vegetarian groups was sufficient for physiologic needs. It is possible that the increased fiber in the vegetarians' diets may have played some role in the lower cholesterol levels observed.

Metabolic Studies of Mongoloids. This study is the result of the common observations that as mongoloids become older, their skins become rough, dry, and exzematous. Fissures of the lips and corners of the mouth are frequently seen. Such lesions are also found in individuals deficient in the B vitamins. Hence, the metabolism of a number of water-soluble vitamins by mongoloid and non-mongoloid children was studied. An unusual finding was the significantly less excretion of N-methylnicotinamide and creatinine after a load test by mongoloids. The possibility of a defect in the methylating ability of mongoloids has been suggested. Following DL-tryptophan, significant differences in N-methylnicotinamide and creatinine excretion were not observed, but the excretion of xanthurenic acid was lower in mongoloids.

Saturation Studies with Vitamin B_{12}. It has been suggested that saturation of body stores with vitamin B_{12} may occur. Normal subjects and patients with megaloblastic anemia or diabetes mellitus were studied during a "saturation" regimen of parenterally administered vitamin B_{12}. Average values for urinary excretion of the vitamin in patients with megaloblastic anemia were lower than those of normal or diabetic subjects, although individual values were within the normal range. It seems likely that the dosage of vitamin B_{12}, although large, was not sufficient to produce saturation of body stores in the severely depleted subject. The marked variability in urinary excretion of the vitamin during a constant regimen appears to preclude the use of urinary excretion tests after single or repeated injections of vitamin B_{12} as a measure of body stores. Levels of bound vitamin B_{12} in the serum of patients with megaloblastic anemia during this regimen were lower than in the other subjects. This may indicate deficiency of the protein factor in serum which combines with vitamin B_{12} or deficiency of some other substance, such as intrinsic factor, which promotes the combining of the vitamin with serum protein in megaloblastic anemia.

Caloric Equivalents of Gained or Lost Weight. Caloric equivalents of 1 lb. gained or lost weight are discussed in this article. Low caloric diets for weight reduction should be high in protein so that protein and glycogen will be approximately in equilibrium. The caloric deficit will be made up chiefly by the catabolism of fat. Under these conditions, the caloric equivalent of 1 lb. body weight lost is approximately 3500 calories. The caloric equivalent of 1 lb. body weight gained depends on the state of the protein and carbohydrate stores. If these stores have been depleted as the result of fasting, their replenishment will be associated with a concomitant deposition of large quantities of water. During this period, the caloric equivalent of 1 lb. body weight gained will be markedly less than 3500. When a state of protein and glycogen equilibrium is reached, all food ingested in excess of the amount needed to maintain caloric equilibrium will be converted into fat. The caloric equivalent of 1 lb. body weight gained will then be 3500. In fasting, there are always decided negative protein and glycogen balances. The catabolism of protein and glycogen is associated with losses of large quantities of water. The caloric equivalent of 1 lb. body weight lost in fasting (negative nitrogen balance) is always markedly less than 3500.

Eating Patterns of Italian-Americans. Planning a diet for any member of a group which has a high interest in food calls for some understanding of his cultural background. The main concern of this article is with Italian-Americans over forty years of age who still retain the Italian cultural eating pattern and who are at an age when they are more likely to need therapeutic diets. A successful approach to therapeutic diets begins by evaluating the Italian way of eating and then suggesting changes needed for adequate nutrition. Typical foods, meal patterns, seasonings, and holiday foods of the Italians are described. Adaptation of therapeutic diets to the eating patterns of Italian-Americans are discussed.

AMERICAN JOURNAL OF DIGESTIVE DISEASES

Vol. 3 N.S., August, 1958

The absorption, transport, and deposition of fat. Application of a new method for the determination of I^{131}-lipid activity in dogs and man (Part 1. D. A. Turner. —p. 657.

Vol. 3 N.S., September, 1958

*Regulation of food intake. M. I. Grossman. —p. 657.

The absorption, transport, and deposition of fat. Application of a new method of determination of I^{131}-lipid activity in dogs and man (Part 2). D. A. Turner.—p. 682.

Regulation of Food Intake. In normal animals and human beings, the intake of food is precisely regulated to the level of energy expenditure, thus keeping body stores constant. The mechanisms by which this regulation is accomplished include oropharyngeal, gastrointestinal, blood chemical, tissue metabolic, and other factors. The ultimate integration of the information received from these various sites is accomplished by the central nervous system. Although many parts of the central nervous system participate, several areas in the hypothalamus have been identified which exert profound inhibitory or facilitatory influences on feeding reflexes. The nature of the defect or defects in regulation which lead to obesity in human subjects is unknown.

AMERICAN JOURNAL OF PUBLIC HEALTH

Vol. 48, August, 1958

*Freezing and irradiation. J. T. R. Nickerson, B. E. Proctor, and S. A. Goldblith. —p. 1041.

*Chemicals in food as a public health problem. Editorials.—p. 1066.

Vol. 48, September, 1958

*Health problems of infants and preschool children: report of a study. H. M. Wallace, E. Hartman, V. Weckwerth, and E. Davis.—p. 1145.

Freezing and Irradiation. Preservation of foods by freezing is still a comparatively new industrial method of food processing. Frozen foods, if properly handled, are no more likely to be involved in causing food infections and food intoxications than foods processed by other methods of preservation. Prior to freezing, and after defrosting, frozen foods are subject to bacterial invasion. It is believed that standards should be established to regulate the microbiologic content of foods by plate counts and total

microscopic counts. This is especially necessary for precooked-type products. Regarding the irradiation of foods, the chief concern is whether disease-producing bacteria are destroyed. Various irradiation processes are discussed. This method can be used successfully only on certain food commodities. Undesirable side effects of taste and texture occur in some foods. Another question in the irradiation process is the possibility of induced toxicity in the food. At present, there is no evidence of toxicity, but further work is required to establish this point definitely.

Chemicals in Food. For several years, a group of synthetic, nonnutritive, surface-active agents have been used in many foods. These fall into three major groups: the polyoxyethylene esters of fatty acids, the sorbitan esters of fatty acids, and the polyoxyethylene sorbitan esters of fatty acids. Each group of compounds consists of a complex mixture of many different organic chemicals. Scientists of the Food and Drug Administration believe that these compounds have not met the testing procedures necessary to establish the suitability of chemical ingredients for addition to the food supply. In 1957, the Department of Health, Education, and Welfare proposed remedial legislation to Congress for more effective testing of these chemicals.

Health Problems of Children. A study of mortality and morbidity in infants and preschool children in Minneapolis shows, that congenital malformations, accidents, pneumonia and influenza, cancer, and leukemia are the major causes of death in postneonatal infants and preschool children. The morbidity data show that 29.4 per cent of the infants and preschool children had one health problem, 6.7 per cent had two, and 0.6 had three health problems, or an overall of 36.7 per cent with health problems. Children having a higher frequency of health problems include those in the age level forty-nine to sixty months, the nonwhites, and the males. The most common health problems include skin and respiratory disease, with cardiovascular, orthopedic, genito-urinary, allergy, and nutrition disorders appearing next in frequency. The most frequent individual health problems were respiratory infection, diaper rash and other skin conditions, and umbilical hernia. Accidents were more frequent in males, with falls the most frequent.

ANNALS OF BIOCHEMISTRY AND EXPERIMENTAL MEDICINE (India)

Vol. 18, No. 1, 1958

*Supplementary value of low-fat groundnut flour to poor vegetarian diets based on jowar (*Sorghum vulgare*) and ragi (*Eleusine coracana*). S. V. Rao, A. J. Pantulu, M. Swaminathan, and V. Subrahmanyan.—p. 33.

Vol. 18, Number 2, 1958

*Excretion of 17-keotsteroids in tropical eosinophilia. H. S. Chakravarti and B. Mukherjee.—p. 41.

*Studies on the nutritive value of rice and rice diets. Part II. Metabolism of nitrogen, calcium and phosphorus in children on poor vegatarian diets containing husked, undermilled and milled raw rice. K. Joseph, M. N. Rao, S. Ganapathy, M. Swaminathan, and V. Subrahmanyan.—p. 51.

Value of Peanut Flour. Jowar and ragi are two of the important food grains consumed as staple foods by millions of low-income people in Central India. The proteins of jowar and ragi are reported to possess low biologic value for growth. In this study, the supplementary value of ground nut (peanut) flour at 10 and 20 per cent levels in jowar and ragi diets was studied. Incorporation of peanut flour at the 10 per cent level produced a marked improvement in the growth-promoting value of the diets, and at the 20 per cent level, a further improvement was produced.

Excretion of 17-Ketosteroids. Tropical eosinophilia, a common clinical entity in India, is a symptom-complex of uncertain etiology, supposed to be due to either infection or allergy or both. Both the adrenocortical and medullary hormones have eosinopenic effect and as such, it is possible that some alteration in the function of adrenals may account for high eosinophilia. In this study, the excretion of 17-ketosteroids in urine was investigated in men before an after treatment with an arsenical compound. For comparison, healthy men were used. The excretion of 17-ketosteroids was significantly lower before treatment than the normal values and those after treatment. It is suggested that there may be some disturbance of corticosteroidogenesis in the body.

Nutritive Value of Rice. Dietary surveys carried out in different rice-eating areas in India have shown that rice supplies 70 to 80 per cent of the calories in the diets of poor people. While undermilling increases the B-vitamin content of rice, it also increases the phytin phosphorus content. As rice is very deficient in calcium, a higher phytin phosphorus content is likely to affect adversely the utilization of calcium in the diet. In this study, the metabolism of nitrogen, calcium, and phosphorus is reported in young girls fed on a poor vegetarian diet containing husked, undermilled, and milled raw rice. All subjects maintained positive nitrogen and phosphorus balance on all three diets. Although calcium intake was nearly the same on the three diets, the calcium retention on husked rice was much lower than on the other two diets. Three of the seven subjects on husked rice and one on undermilled rice were in negative calcium balance, while all subjects maintained positive calcium balance on the milled rice diet.

ANNALS OF INTERNAL MEDICINE

Vol. 49, August, 1958

Basal metabolic rate, protein-bound iodine and radioactive iodine uptake: a comparative study. H. F. Luddecke.—p. 305.

Aplastic anemia: an analysis of 50 cases. D. N. Mohler and B. S. Leavell.—p. 326.

*The physiologic and clinical significance of erythropoietin. C. W. Gurney, L. O. Jacobson, and E. Goldwasser.—p. 363.

Medicine's genetic horizons. Editorial.—p. 472.

Significance of Erythropoietin. The authors subscribe to the theory that erythropoiesis is continuously regulated in man and animals by a humoral substance or group of substances known as erythropoietin. Plasma from patients with hemoglobin values of less than 8 gm. per 100 ml. frequently stimulates erythropoiesis, even though the plasma has not been concentrated. Normal human plasma must be concentrated to show this effect. Animal experimentation and clinical observation suggest that some cases of anemia reported to be responsive to cobalt therapy may be attributed to erythropoietin deficiency.

ARCHIVES OF INTERNAL MEDICINE

Vol. 102, August, 1958

*Dietary control of essential hyperlipemia. Effect of dairy foods, phospholipid, coconut oil, and alcohol. D. S. Amatuzio and L. J. Hay.—p. 173.

Iron: metabolism, biochemistry, and clinical pathological physiology—review of recent literature. R. Demulder.—p. 254.

Dietary Control of Essential Hyperlipemia. Essential hyperlipemia can usually be controlled by eliminating dairy foods, coconut oil, and alcohol without other restriction in dietary fat. The lipemic fasting serum cleared, and the esterified fatty acids, cholesterol, and phospholipids returned to normal values in seven adults by eliminating alcohol and dairy foods, and in two children by restricting only dairy products. Either dairy foods, phospholipid, coconut oil, or ethyl alcohol caused a hyperlipemia when administered after the serum was clear.

ARCHIVES OF PEDIATRICS

Vol. 75, September, 1958

*Food allergy in childhood. F. Speer.—p. 363.

Food Allergy in Childhood. Food allergy is a common source of a wide variety of obscure childhood complaints. Some of the more common manifestations are discussed in this paper. Foods are classified according to their relative importance in pediatric allergy. Allergy to a given food throws strong suspicion on foods of the same biologic family. Forty food families, including foods commonly eaten by children, are outlined. The two steps in detection of food allergens are (a) history and (b) elimination diets. Relief of the distress caused by food allergy depends on careful avoidance of foods found to be responsible.

BRITISH MEDICAL JOURNAL

No. 5095, August 30, 1958

*Protein requirements.—p. 554.

Protein Requirements. In many parts of the world an inadequate sup-

ply of dietary protein is a potent cause of disease, particularly in children. In Africa the condition known as kwashiorkor is attributed to this defect, and essentially the same syndrome has been observed in places as wide apart as Central Europe and the West Indies. The recent report published by FAO, summarizes the findings of a group of experts. The minimum protein requirement is taken as a daily intake just necessary to preserve a positive nitrogen balance. Allowance for age must then be made since the requirement falls from 2 gm. per kilogram body weight in the newborn to only 0.35 gm. in adults. Sex also must be considered, for curves relating age and requirements differ in boys and girls. The minimum requirement of the typical individual is, therefore, calculated according to the numbers of subjects in the different age and sex groups. In an example in the report, the requirement for a typical inhabitant of a country in question was 20.7 gm. per day expressed in terms of egg albumin. To provide a safety margin, this basic figure is increased by 50 per cent to 31.1 gm. Some of the data reviewed in the concise report are surprising. Thus a biologic value of 91, assessed in experiments on human beings, is reported for a protein of cottonseed meal, as compared with values of 67 to 84 for beef muscle. It will be interesting to see whether future reports will confirm the superiority of this obscure vegetable protein over a food which dietitians consider a source par excellence of first class animal protein.

CEREAL CHEMISTRY

Vol. 35, September, 1958

*The vitamin content of wheat, flour, and bread. W. K. Calhoun, W. G. Bechtel, and W. B. Bradley.—p. 350.

*The effect of sucrose on gluten development and the solubility of the proteins of a soft wheat flour. E. J. Baxter and E. E. Hester.—p. 366.

Vitamins in Wheat, Flour, and Bread. The vitamin content of wheat may vary considerably, depending on the variety, climate, composition of the soil, harvesting, and handling procedures. Wheats commercially milled for bread flours are usually blends of several varieties from different areas. In this study, the range of vitamin concentrations in wheat blends, flours, and breads baked from the flours was investigated. This paper presents the methods used and the values obtained on four series of wheat blends, flours, and breads. Levels of thiamine, riboflavin, niacin, pantothenic acid, and para-aminobenzoic acid were directly related to the protein level of the wheats. This relationship did not exist for biotin, choline, folic acid, and inositol. The spring wheat blends were higher in vitamins (and proteins) than were winter wheats. Choline levels were least affected by milling and by the breadmaking procedure.

Effect of Sucrose on Baked Products. Soft wheat flour is generally used to reduce the effect of gluten in chemically leavened batters and doughs. Sugar is frequently an ingredient of these products and is added for its tenderizing effect as well as for sweetness. In this paper the effect of sucrose on the gluten and soluble proteins of soft wheat flour was investigated. The importance of the peptization of gluten by sucrose in contributing to the tenderization of baked flour mixtures is questionable. Recovery of flour fractions was not affected by four concentrations of sucrose. Recovery of gluten protein diminished and soluble protein increased when sugar was present in the flour batter. It appears that the tenderizing effect of sugar on the baked products is due to a competition between sugar and the proteins for water, resulting in a lack of or reduction in gluten development.

DIABETES

Vol. 7, September-October, 1958

*Action of insulin and tolbutamide on blood glucose entry and removal. G. Jacobs, G. Reichard, E. H. Goodman, Jr., B. Friedmann, and S. Weinhouse.—p. 358.

*Insulin-like activity of serum protein fractions. P. M. Beigelman.—p. 365.

Blood Glucose Entry and Removal. In this study the action of insulin on the entry and removal rates of blood glucose was compared with that of tolbutamide. On intravenous insulin injection, there was an immediate, transient suppression of glucose entry and an approximately threefold increased removal rate. With intravenous tolbutamide, glucose entry was suppressed as with insulin, but the removal rate was unaffected. This action of tolbutamide was similar to that of subcutaneously injected insulin, which also caused a suppression of blood glucose entry without affecting its removal. The data are in accord with an action of tolbutamide in stimulating insulin secretion and are regarded as emphasizing the role of insulin on hepatic glucose output in the physiologic action of the hormone.

Insulin-Like Activity of Serum Protein Fractions. There have been recent studies indicating that specific insulin-like activity is associated with discrete serum protein fractions. This study is concerned with further investigations of this subject employing different methods of bio-assay and serum protein fractionation. Serum protein fractions obtained by preparative continuous flow paper electrophoresis were tested by a simplified insulin assay for insulin-like effect using intact mice. The predominant insulin-like effect was associated with beta-globulin.

FOOD AND NUTRITION NOTES AND REVIEWS

Vol. 15, July and August, 1958

*Food production in South Pacific Islands. N.E.K.—p. 61.

Food in the South Seas. There are problems connected with food production in the islands of the South Pacific. The growing of cash crops on a large scale would have far-reaching effects on a native economy, and any extension of the growing of cash crops would be expected to require the strengthening of agricultural advisory services. It is certainly not desirable from a nutritional viewpoint that subsistence crops be replaced by cash crops or that native people should be encouraged to sell the products of their cultivation to buy imported foods in entirety. On most islands, the basis of the native diet is still a starchy vegetable, as much as 80 per cent of the food intake being from this source. Among the most important basic food plants are: sago, taro, yams, sweet potatoes, cassava, breadfruit, and bananas. Each of these foods is discussed.

FOOD RESEARCH

Vol. 23, July-August, 1958

*Some statistical considerations for small sample evaluation in triangular taste tests. H. R. Roberts, C. H. McCall, Jr., and R. E. Thomas.—p. 388.

Small Sample Taste-Testing. A common problem with which taste panels are faced is that of distinguishing between two similar samples. In certain situations, experimental evidence seems to indicate a preference for multiple comparisons. This paper considers a modification in the analysis of the triangular test. These authors have developed a statistical procedure for the evaluation of triangle-test results which improves the analysis of these results, using as a criterion of improvement the powers of the conventional and modified test procedures.

FOOD TECHNOLOGY

Vol. 12, September, 1958

*Nutrition in space operations. J. G. Gaume.—p. 433.

Nutrition in space flight. Baloon flight experience. D. G. Simons.—p. 436.

Present capabilities and future needs for space feeding. A. A. Taylor.—p. 442.

Feeding crews in air vehicles of the future. B. Finkelstein.—p. 445.

Close cycle biological systems for space feeding. I. Systems 1 and 2. M. C. Brockmann, A. S. Henick, G. W. Kurtz, and R. G. Tischer.—p. 449.

Close cycle biological systems for space feeding. II. System 3. M. C. Brockmann, A. S. Henick, G. W. Kurtz, and R. G. Tischer.—p. 454.

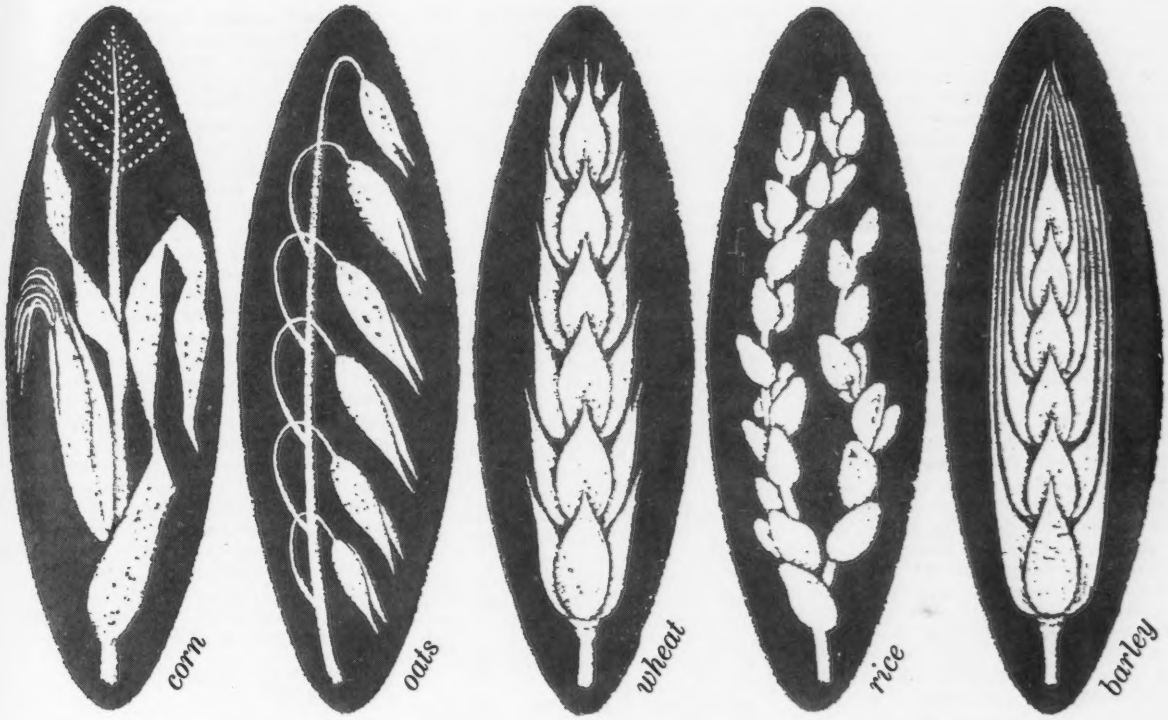
Space feeding problems: A bibliography. J. G. Hodgson and R. G. Tischer.—p. 459.

*Development and evaluation of potato chip bars. R. H. Treadway, J. R. Wagner, C. F. Woodward, E. G. Heisler, and R. M. Hopkins.—p. 479.

*A comparison of an objective and subjective measurement of beef tenderness. A. H. Bockian, A. F. Anglemier, and L. A. Sather.—p. 483.

*Nutritional study of instant coffee powder. L. J. Tepley.—p. 485.

Space Feeding. The first seven articles listed comprise a symposium and concern: nutrition in space flight (balloon flight experience); limita-



a moderate reduction in fat indicates cereal and milk serving

Medical and nutrition authorities recommend moderation and reasonableness in food choice as a best guide to good health. When a moderate reduction of dietary fat is indicated, a good choice is the cereal and milk serving for breakfast and the late evening snack.

Both the breakfast cereal and the milk contribute well-balanced nourishment and provide quick and lasting energy. This serving, as shown below, is a good source of many nutrients and provides about 10 per cent of the daily recommendations of high quality protein, important B vitamins, and essential minerals. Served with nonfat milk, the fat content is very low.*

nutritive composition of average cereal serving

	Cereal, 1 oz. Whole Milk, 4 oz. Sugar, 1 teaspoon	Cereal** 1 oz.	Whole Milk 4 oz.	Sugar 1 teaspoon
CALORIES	203	104	83	16
PROTEIN	7.3 gm.	3.1 gm.	4.2 gm.	
FAT	5.3 gm.	0.6 gm.	4.7 gm.*	
CARBOHYDRATE	32.2 gm.	22 gm.	6.0 gm.	4.2 gm.
CALCIUM	0.169 gm.	0.025 gm.	0.144 gm.	
IRON	1.5 mg.	1.4 mg.	0.1 mg.	
VITAMIN A	195 I. U.	—	195 I. U.	
THIAMINE	0.16 mg.	0.12 mg.	0.04 mg.	
RIBOFLAVIN	0.25 mg.	0.04 mg.	0.21 mg.	
NIACIN	1.4 mg.	1.3 mg.	0.1 mg.	
ASCORBIC ACID	1.5 mg.	—	1.5 mg.	
CHOLESTEROL	16.4 mg.	0	16.4 mg.*	

*Nonfat (skim) milk, 4 oz., reduces the Fat value to 0.1 gm. and the Cholesterol value to 0.35 mg.
**Based on composite average of breakfast cereals on dry weight basis.

Bowes, A. deP., and Church, C. F.: Food Values of Portions Commonly Used. 8th ed. Philadelphia: A. deP. Bowes, 1956.
Cereal Institute, Inc.: The Nutritional Contribution of Breakfast Cereals. Chicago: Cereal Institute, Inc., 1956.
Hayes, O. B., and Rose, G. K.: Supplementary Food Composition Table. J. Am. Dietet. A. 33:26, 1957.

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A research and educational endeavor devoted to the betterment of national nutrition

tions, both physical and environmental, imposed on the astronautical crew; feeding systems, specifically, closed biologic systems; present capabilities for evaluating the problems of feeding men in space vehicles (Air Force studies). The bibliography includes general materials on man in space, space medicine, space psychology, space engineering, space feeding systems, and algae as a source of space food and oxygen.

Potato Chip Bars. Potato chips crushed to ⅛ to ¼ in. on a side and compressed at 500 to 3000 p.s.i. give self-supporting bars in which the characteristic crunchy texture of the original chips is preserved. Oil loss is slight or nil if chips are fried in hydrogenated shortening and compressed in an automatic press under optimum conditions. Sensory evaluation of the chip bars after one year's storage resulted in scores high enough to indicate acceptability as a ration component for the Armed Forces. Canned bars stored at 40° and 70°F. for a year were still palatable; those stored at 100°F. were definitely lower in acceptability. During the year's storage, the free fatty acid content of the bars remained substantially unchanged. Peroxide value of the air-pack product, however, increased appreciably during 100°F. storage. Oxygen content in the head space of the air-filled cans decreased decidely during high temperature storage, indicating that a nitrogen pack should be used to prevent oxidative deterioration over a long period. Evaluation by a consumer-type panel indicated that chip bars might also have possibilities as a civilian food product. With the less rigorous stability requirements of a civilian product, it should be feasible to fry the chips in a vegetable oil-shortening blend, which appears to make the flavor of the bar more attractive.

Beef Tenderness. Tenderness of samples from the *longissimus dorsi* muscle of standing rib roasts was measured subjectively by a trained taste panel and compared with the energy required to grind samples from the same muscle in a grinder attachment on a home food mixer. Correlation coefficients of −0.59 and −0.60 were obtained between the objective and subjective tenderness measurements. The highest correlation coefficients were obtained when the meat was ground and tasted immediately after preparation. Duplicate samples showed about a 10 per cent variation in the energy required. The grinder method suggests an inexpensive method for evaluating the tenderness of meat samples by which many samples can be processed in a short time.

Nutrients in Instant Coffee Powder. Presence of an average of 0.33 mg. niacin per gram of instant coffee powder was confirmed by bio-assay. Regular instant coffee powder contained from 0.22 to 0.53 mg. niacin per gram. Two samples of decaffeinated instant coffee powder contained 0.37 and 0.41 mg. niacin per gram. Measurable, but low, levels of eight other B-vitamins and of sodium, calcium, iron, and fluorine were found.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Vol. 168, September 20, 1958

*Diets of occupational groups. Foreign Letters–United Kingdom.—p. 318.

*Atherogenic index. Questions and Answers.—p. 360.

Vol. 168, September 27, 1958

*Shellfish poisoning. Foreign Letters–Canada.—p. 431.

*Caries-producing potential of chocolate. W. S. Mueller. Correspondence.—p. 436.

Diet of Occupational Groups. The annual report of the British National Food Survey Committee for 1956 contains an analysis of household diets according to occupational groups. Consumption of most main foods declined steadily from Class 1 (professional and technical occupations) to Class 5 (unskilled occupations), the gradation being steepest for fresh fruit. For bread and potatoes, margarine, and tea, the class gradient in consumption was reversed. A comparison of the consumption of various foods and nutrients for the different classes is discussed.

Atherogenic Index. The "atherogenic index"—0.1 (S_f0–12) + 0.175 (S_f12–400)—undoubtedly has much statistical and some individual predictive value in coronary disease. But the predictive value is not accepted by many workers in the field as being greater than that of the simpler, less expensive, and more readily available determination of the serum cholesterol level. There is little evidence that restriction of carbohydrate is specificially helpful when the S_f12–400 level is elevated or that restriction of saturated fats helps only when the S_f0–12 level is high. Heparin injections in the treatment of atherosclerotic disease are not advocated, except to the extent that they function as anti-coagulants. Neither is thyroid extract suggested as an anti-atherogenic measure in euthyroid persons. The significance of variations in carbohydrate intake in the pathogenesis of atherosclerosis has not been established but merits consideration as an accessory factor because the body can convert carbohydrate to fat.

Shellfish Poisoning. Two epidemics of paralytic shellfish poisoning were reported in Canada in 1957, one in New Brunswick and one in British Columbia. The offenders were soft-shell clams and bar clams from the shore of the Bay of Fundy, the toxicity of which is regularly assayed by the Department of Fisheries. When the toxicity rises above an arbitrary limit of 400 units, warning notices are posted. However, people still gathered clams. Symptoms included loosening of the teeth, respiratory difficulty, and numbness of the face, lips, tongue, and fingers. The speed of onset of symptoms suggests that the toxin might be absorbed through the oral mucosa.

Caries-Producing Potential of Chocolate. A recent study on the production of acids in dental plaque after ingestion of various solid and liquid foods showed that milk chocolate produced the most acid. It was also found that the amount of acid does not depend solely on the carbohydrate content of the food or on the amount of food retained in the mouth. From a bacteriologic study of chocolate milk, it was concluded that cocoa powders or chocolate sirups added to milk definitely inhibited the growth of bacteria likely to be found in milk, except for *Streptococcus lactis*. The tannic substances of the cocoa products are the agents responsible for inhibiting bacterial growth. Hence, any inhibition of nonacid-producing microorganisms by tannin-like substances should increase the growth of acid producers because of lack of competition. It was also found that the inhibition of bacterial growth was greater at room temperature than at refrigerator temperature. One would expect a still greater inhibition at mouth temperature, with a further increase in acid production.

JOURNAL OF BIOLOGICAL CHEMISTRY

Vol. 233, August, 1958

*Regulation of hepatic lipogenesis: The influence of dietary fats. R. Hill, J. M. Linazasoro, F. Chevallier, and I. L. Chaikoff.—p. 305.

*The absorption of fats studied in a patient with chyluria. II. Palmitic and oleic acids. R. Blomstrand and E. H. Ahrens, Jr.—p. 321.

*Absorption of fats studied in a patient with chyluria. III. Cholesterol. R. Blomstrand and E. H. Ahrens, Jr.—p. 327.

Regulation of Hepatic Lipogenesis. Rats were fed for three days synthetic diets containing: 0, 1, 2.5, 5, 10, and 15 per cent fat. The fats tested included lard, corn oil, vegetable oil, and hydrogenated vegetable oil. The glucose content of each diet, regardless of its fat content, was kept constant, namely, at 50 per cent. The livers of rats fed the diet devoid of fat had the highest capacity for converting acetate carbon to fatty acids. A measurable depression in lipogenesis was observed when as little as 2.5 per cent fat was added to the diet. When the fat content of the diet was increased to 15 per cent, the liver had lost about 90 per cent of its ability to convert acetate carbon to fatty acids. All fats tested were effective in reducing hepatic lipogenesis. Similar effects were observed when labeled glucose served as substrate. These effects of ingested fat on hepatic lipogenesis occurred in the absence of changes in (a) the glycogen and fat content of the liver and (b) the glucose and lipid content of plasma. The administration of insulin failed to increase the depressed hepatic lipogenesis induced by fat feeding.

Fats in Patient with Chyluria. Carboxyl-labeled oleic and palmitic acids were fed as free acids and as triglyceride esters to a patient with

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Niacinamide	11 mg.
Calcium pantothenate	4.5 mg.
Pyridoxine hydrochloride	0.6 mg.
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Choline bitartrate	55 mg.
Vitamin B_{12}	0.5 mcg.
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chyluria, and the incorporation of these acids into the various lipid classes of the lymph was followed. The absorption of these test fats was close to 100 per cent. Oleic acid was transported via the lymphatic pathway and incorporated into triglycerides, phospholipides, and nonesterified fatty acids to the same extent as palmitic acid. Chyle triglycerides constituted the main transport form of both oleic and palmitic acids (about 90 per cent of the total amount of isotope in the lymph). About 3 to 9 per cent of the isotope was incorporated into the phospholipides and 1 to 7 per cent in the nonesterified fatty acids. Measurements of the isotope concentrations in the separated lymph lipide fatty acids, relative to those in the fatty acid mixtures fed to the patient, indicated that about 90 per cent of the chyle triglycerides were of dietary origin, but that at most 20 per cent of the phospholipide and nonesterified fatty acids were derived from absorbed acids. The data indicate that the latter two groups of acids in human lymph are largely of endogenous origin and could not be precursors of the triglyceride acids in chyle.

Cholesterol in Chyluria. The absorption of dietary cholesterol-4-C^{14} was tested in a patient with chyluria who shunted 40 per cent of absorbed dietary fat into her urine. Whether given with or without fat, about 20 per cent of the administered cholesterol was absorbed in 15 hr. The peak of labeled cholesterol absorption occurred at 9 hr., that of fat absorption 3 hr. earlier. Sixty to 80 per cent of the cholesterol in the chyle was in the esterified form. Cholesterol absorption was reduced about 50 per cent by the simultaneous administration of beta-sitosterol. Under various conditions of fat intake, 1 to 3 gm. cholesterol were transported each day from the intestine to the blood stream via the chyle: the greater the fat intake, the larger was the pool of recirculated cholesterol.

THE JOURNAL OF CLINICAL INVESTIGATION

Vol. 37, August, 1958

*The fatty acids of total lipids and cholesterol esters from normal plasma and atheromatous plaques. N. Tuna, L. Reckers, and I. D. Frantz, Jr.—p. 1153.

Fatty Acids of Plasma and Atheromatous Plaques. The fatty acids of the total lipids and the cholesterol esters of normal plasma and atheromatous plaques were investigated by: counter-current distribution, determination of iodine value, alkali isomerization, gas-liquid chromatography, and paper chromatography before and after hydrogenation. The fatty acids demonstrated were: the saturated fatty acids C_{12}; C_{14}; C_{16}; C_{18}; and C_{20}; and unsaturated fatty acids C_{16} with one and probably two double bonds; C_{18} with one, two, and probably three double bonds; C_{20} with two and probably more double bonds; and C_{22} with unknown numbers of double bonds. Fatty acids of unknown chain length with five and six double bonds were also present. The octadecadienoic acid content of cholesterol esters was higher than that of total lipids, both in blood and plaques. No qualitative and gross quantitative differences were found between the total fatty acids of normal plasma and atheromatous plaques. The linoleic acid content of cholesterol esters of normal plasma was higher than that of atheromatous plaques. The reverse was true for oleic acid. The significance of this finding is unknown. The data are interpreted as support of the concept that plaques are formed by filtration and indiscriminate deposition of blood lipids in the arterial wall.

JOURNAL OF HOME ECONOMICS

Vol. 50, September, 1958

*The food we eat. E. N. Todhunter.—p. 510.

The Food We Eat. Food is in the news, but is the news information fact? This article discusses phases of nutrition that are current. The author states that much of what is in the news is the work of food faddists and quacks. Examples are given in a series of topics, including minerals and vitamins, proteins, fats, and weight control which illustrate how the food faddist operates. Home economists have a responsibility to try to get correct information to the public. To keep up to date in the facts of nutrition, every home economist should attend professional meetings, take refresher courses, and read—but read wisely. A suggested reading list is given. The article concludes with an outline of seven measures by which the home economist can combat the food misinformation that is often in the news.

JOURNAL OF THE INDIAN MEDICAL ASSOCIATION

Vol. 30, June 16, 1958

*A note on some feeding trials with food yeast in Uttar Pradesh. K. K. Govil and B. G. Prasad.—p. 400.

Vol. 31, July 1, 1958

*Nutritional macrocytic anemia in India. J. B. Chatterjea.—p. 4.

Food yeast. At present, food yeast appears to be a means of improving the nutritive value of the predominantly cereal diets of the masses in India, provided it is accepted by them. In this study, consumer feeding trials with food yeast were carried out in two regions. One-half oz. food yeast was mixed in various foods and was consumed daily without untoward effects. The acceptability was about 75 per cent.

Nutritional Macrocytic Anemia. In nutritional macrocytic anemia, there is a deficiency of folic acid and/or vitamin B_{12} due to dietary inadequacy. In an average case of nutritional macrocytic anemia, as seen in Bengal, folic acid deficiency predominates. In this study, the assessment of folic acid and vitamin B_{12} deficiency was investigated by estimating these vitamins in serum and urine (before and after test dosage) and by therapeutic response under controlled conditions. The status of serum iron and iron-binding capacity of serum before, during, and after therapy was also studied.

JOURNAL OF J. J. GROUP OF HOSPITALS AND GRANT MEDICAL COLLEGE (India)

Vol. 3, July, 1958

*A note on serum iron concentration in normal pregnant women. R. S. Sharma, J. G. Parekh, H. I. Jhala, C. G. Saraiya, (Kum.) G. C. Kothari, and B. D. Patel.—p. 189.

*Obesity—psychological aspects. J. C. Marfatia. Practitioner's Section.—p. 207.

*Obesity—medical aspects. J. C. Patel. Practitioner's Section.—p. 209.

*Obesity — paediatric aspects. V. D. Arora. Practitioner's Section.—p. 211.

Serum Iron in Normal Pregnant Women. Iron deficiency anemia is particularly common in pregnant women. This can be detected by examination of the peripheral blood smears and confirmed by determining the mean corpuscular hemoglobin concentration. An additional method is the determining of serum iron level and the serum iron binding capacity. Normal levels of serum iron in man have been reported by these authors previously. In this study, the average serum iron level in the third trimester of pregnancy was studied. The average serum iron concentration in the blood was 149 mcg. per 100 ml. Thus, it is revealed that normal pregnant women on an adequate diet have serum iron levels at a par with normal adult males.

Psychologic Aspects of Obesity. This author, a psychiatrist, feels that obesity should be considered in the vast majority of cases as a psychosomatic problem. Few people come, or are even referred by physicians, for psychologic treatment of obesity. In some cases, there probably was much emphasis on eating in the family background. The mother usually was overprotective. In many cases, there is an underlying subconscious feeling of rejection, a feeling of not being loved. Hence eating (food equals love) becomes a substitute for the love that is missed. It has also been shown that obese people are prone to suffer from certain mental disorders, particularly manic-depressive psychosis.

Medical Aspects of Obesity. From the medical viewpoint, health hazards are associated with an increase in weight. At the age of forty-five to fifty, an increase of 10 lb. over normal weight is associated with an increased mortality of 8 per cent, as compared with the average death rate for the same age. For 20 lb. overweight, it is 18 per cent higher; for 30 lb., 28 per cent; and for 50 lb., 56 per cent. In India, obesity is considered synonymous with strength. It is therefore necessary for doctors in India to educate the public on the desirability of normal weight. Fat persons are more

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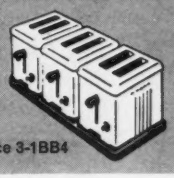
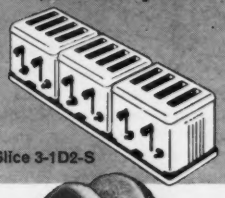


6-Slice 3-1BB4



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susceptible to any disease, and once contracted, it is more likely to be severe. Common diseases in the obese are heart disease, hypertension, and diabetes.

Pediatric Aspects of Obesity. Parents usually view the fat child as a specimen of health, and there is no problem until obesity operates as a social handicap. Some of the causes of obesity, including endocrinopathies, overeating, psychologic factors, and genetic factors, are discussed. Suggestions are presented concerning the management of the obese child. It is pointed out that there is no short cut to treatment of obesity. Treatment must be individualized, and one should attempt to rectify factors that have contributed to over-feeding. It would be helpful to prevent the development of obesity in children by inculcating proper attitudes in parents about weight gain in early infancy.

THE JOURNAL OF NUTRITION

Vol. 65, July, 1958

*A study of the nutritive value of proteins from different sources in the feeding of African children. E. M. DeMaeyer and H. Vanderborght.—p. 335.

*The activity of certain water-soluble vitamins after exposure to gamma radiations in dry mixtures and in solutions. L. R. Richardson, J. L. Martin, and S. Hart.—p. 409.

*Availability to man of amino acids in foods. I. General methods. H. Linkswiler, G. Geschwender, J. Ellison, and H. M. Fox.—p. 441.

*Availability to man of amino acids from foods. II. Valine from corn. H. Linkswiler, H. M. Fox, D. Geschwender, and P. C. Fry.—p. 455.

*The effect of dietary fat on the fatty acid composition of cholesterol esters in rat liver. S. Mukherjee, K. T. Achaya, H. J. Deuel, Jr., and R. B. Alfin-Slater.—p. 469.

Nutritive Values of Proteins. The study of the nutritive value of new sources or combinations of proteins attracts more and more interest in the world. A study of the supplementation value of different protein-rich foods was conducted on African children three to seven years old and recovering from kwashiorkor. The supplementary food used was either skim milk or a combination of beans and peanuts or peanut flour or soybean flour. The retention of the nitrogen absorbed was highest when milk was introduced into the diet; the combination of beans and peanuts came next, followed by peanut and soybean flour. When the retention was correlated with the nitrogen intake (taking into account the digestibility), the foods might still be classified in the same manner, although some of them lost part of their value.

Gamma Radiation of Vitamin Mixtures. The effect of ionizing radiation on choline, folic acid, thiamine, riboflavin, pyridoxine, and pantothenic acid was investigated under various conditions, using baby chicks as experimental animals. There was no evidence that any of the vitamins were destroyed when the synthetic diet containing the vitamins or a mixture of the vitamins with vitamin-free casein was irradiated. However, there was some destruction of each vitamin, except choline, when irradiation was carried out in an aqueous solution. It is suggested that it may be necessary to supplement diets composed entirely of irradiated foods with a complete vitamin mixture.

Availability of Amino Acids. The study reported in this paper deals with an attempt to devise a method suitable for determining the availability of individual amino acids from specific foods. The results indicated that availability of an amino acid in natural food can be determined for man by feeding in alternate periods an equivalent amount of a purified and of a bound amino acid in food. Either a basal diet containing liberal quantities of essential amino acids, or a basal diet containing moderate quantities of essential amino acids appears suitable for use as a control diet. It appears that man is able to use efficiently a combination of bound (protein-amino acids) and of purified amino acids.

Availability of Valine in Corn. The availability of valine in corn for human subjects was determined by feeding in alternate periods a diet containing valine in purified form and one containing the same amount in corn. The valine in corn was as well utilized as purified valine.

Fat and Liver Cholesterol Esters. In this study, the differences in fatty acid composition of cholesterol esters in the liver of rats was compared in adult rats fed diets containing different dietary fats. Results are given in tabular form. The composition of the dietary fat exerted a marked influence on the fatty acid pattern exhibited by the cholesterol esters in the liver.

THE LANCET

No. 7040, August 2, 1958

*The modification of egg-yolk fats by sunflower-seed oil and the effect of such yolk fats on blood-cholesterol levels. L. Horlick and J. B. O'Neil.—p. 243.

Serum-cholesterol levels after consuming eggs with increased content of unsaturated lipids. H. Gordon, J. Wilkens, and J. F. Brock.—p. 244.

*The British diet.—p. 254.

No. 7045, September 6, 1958

*The prophylaxis of iron-deficiency aenemia in pregnancy. D. N. S. Kerr and Sir S. Davidson.—p. 483.

No. 7046, September 13, 1958

*Retention of sodium during undernutrition. With a note on the relation of the extracellular space to growth and ageing. P. Fourman and B. McConkey.—p. 554.

Modification of Egg-Yolk Fats. Serum cholesterol in man may be lowered by removing fat from the diet or by substituting certain vegetable oils, rich in unsaturated fatty acids, for the usual dietary fats. The addition of fairly large amounts of vegetable fats to the ordinary diet has a similar effect, but disturbs the caloric balance and leads to a gain in weight. Unsaturated fatty acids were added to the diets of hens, milch-cows, hogs, and beef cattle, and thus incorporated in the food these animals provide. Hens were fed 10 per cent sunflower-seed oil for an eight-week period. Eggs collected after ten days on this diet showed a sixfold increase in the di-unsaturated ^{18}C fatty acids which was due almost entirely to linoleic acid. The linolenic acid content was low. The increase in linoleic acid was largely at the expense of the oleic acid, which declined by half. Two subjects were given these "experimental" eggs. Preliminary results indicate that hens' eggs containing unsaturated fatty acids in high concentration may be consumed without raising cholesterol levels above the "basal value" for the individual. These basal values are about 30 per cent below the levels ordinarily found in Western society. Perhaps modification of foodstuffs may enable us to achieve the cholesterol levels now seen in populations which have low morbidity and mortality from atherosclerosis.

The British Diet. In 1956 in Britain the transition to a free market was almost complete, and the National Food Survey Committee's report for that year is its first to record household diets under trading conditions similar to those prevailing before the war. Comparing 1956 with 1934-39, the biggest change was an increase of 37 per cent in milk consumption. Meat consumption was up by 3 per cent, but fish was down by 16 per cent. A decline of 37 per cent in butter was almost completely offset by an increase in margarine consumption. Cereals were down by 8 per cent, but potatoes were up by 16 per cent. Fruit and vegetables were almost unchanged. The nutrients available from these supplies showed few significant changes. Daily intake of calcium per head had gone up by from 688 to 1107 mg. per day, derived partly from the extra milk and partly from artificial addition to bread. Total calories have increased from 3000 to 3140 per day, protein from 80 to 83 gm. per day, and fat from 130 to 138 gm. per day. This survey recorded the diets consumed in 9,617 households involving 31,063 persons. The uniformity in the total quantity of fat consumed was striking, although the Welsh take much more in the form of butter. The intake of vegetable fat was also remarkably constant (20 to 25 gm. per day) at all social levels; but there was a small increase in the average intake of animal fat (from 77 to 95 gm. per day) in the higher economic groups.

Iron-Deficiency Anemia. The incidence of anemia in pregnancy in Edinburgh in 1955 and 1956 has been estimated. Although severe anemia is rare at the beginning of pregnancy, mild anemia is common. No correlation has been found between the incidence of anemia and age, parity,

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or the number of pregnancies within the previous five years. An estimate of the average daily intake of iron in pregnant women in Edinburgh suggests that it is slightly less than the 15 mg. usually recommended. The incidence or degree of anemia did not correspond closely with the dietary iron intake. Oral administration of iron supplements during the third trimester corrects the anemia in about 80 per cent of the cases, even when the initial mean corpuscular hemoglobin content is normal. No difference was found in gastrointestinal side effects between ferrous sulphate and ferrous gluconate given in doses containing 105 mg. iron daily.

Retention of Sodium in Undernutrition. In three moderately obese people, the effects of simple undernutrition were studied, in two of them for three weeks, in one for six weeks. The individuals lost protein tissue and fat, but did not gain sodium. There was no evidence of an increase in the absolute amount of the extracellular fluid, although the proportion of the extracellular fluid increased. It is suggested that a relative increase in the volume of the extracellular fluid must inevitably accompany wasting, if the cells which shrink are to retain their normal covering film of fluid. This concept has been extended to explain the changes in the volume of the extracellular fluid which accompany growth and atrophy.

NEW ENGLAND JOURNAL OF MEDICINE

Vol. 259, August 14, 1958

*Clinical and laboratory studies of 207 consecutive patients in a kidney-stone clinic. R. A. Melick and P. H. Henneman.—p. 307.

Vol. 259, August 28, 1958

Magnesium metabolism. W. E. C. Wacker and B. L. Vallee.—p. 431.

Causes of Kidney Stones. The records of 207 patients during a five-year period in a medical clinic for patients with renal stones were reviewed. Sixty-eight patients had primarily calcium phosphate and calcium oxalate stones due to the hypercalciuria of hyperparathyroidism; bone disease; renal tubular acidosis; excessive intake of milk, alkali, or vitamin D; or idiopathic hypercalcuria. Twenty-two patients had uric acid stones caused by a persistently acid urine associated in some patients with gout, polycythemia, and chronic diarrhea. Six patients had cystine stones due to cystinuria. Only three patients formed primary stones that were due to infection. Secondary stones, which were usually composed of calcium phosphate and magnesium ammonium phosphate, developed in thirty-one cases. In 108 patients no cause for stone formation could reasonably be surmised from the records. In the most recent follow-up study, 109 patients were free of stones, and fifteen were free of infection. It is concluded that a cause for stone formation can be found in at least half the patients with renal stones and that combined medico-urologic management will render most of these patients free of stones and infection.

NUTRITION REVIEWS

Vol. 16, August, 1958

*Nutrition and chronic disease control. L. E. Burney.—p. 225.

Nutrition and Chronic Disease Control. Many advances in medical knowledge during the past decade have been made possible by the very rapid growth of our young science of nutrition. This progress has brought medicine, public health, and the food industry to a vantage point from which nutrition can attack some of the most devastating chronic diseases and hereditary disorders. Research programs of the Public Health Service reflect the increasing emphasis on biochemistry, the basic discipline of nutritional science. Biochemical research is the entering wedge for the solution of many basic problems in such diverse fields as cancer, cardiovascular, neurologic, mental, and infectious diseases, as well as of the major metabolic disorders.

PROCEEDINGS OF THE NUTRITION SOCIETY

Vol. 17, No. 2, 1958

*The fish supplies of the world. D. B. Finn.—p. 122.

*The use of fish flours as human food. The Nutrition Division, Food and Agriculture Organization of the United Nations.—p. 153.

*The mechanism of postoperative malabsorption syndrome leading to secondary protein malnutrition. Z. A. Leitner.—p. xxxiii.

*The response of obese human subjects to isocaloric diets. A. Kekwick and G. L. S. Pawan.—p. xxxv.

*A numerical index of protein nutrition and function in human adults. R. L. Worrall.—p. xxxvii.

*Some dietary differences among manual workers' families associated with variations in income. W. L. Readman and E. A. Drury.—p. xlvi.

World Fish Supplies. In a world with a population that has increased from about 2169 million in 1937 to 2734 million in 1956, it is not surprising that scientists are interested in the food supplies that are and may be harvested from the sea and the inland waters of the world. This article gives an account of the catch and of the consumption of fish in the world today. Also, prospects for an increase in aquatic food are discussed. It is felt that the Food and Agriculture Organization can assist governments in advancing policies in the management of food from the seas.

Fish Flours as Human Food. Fish is among the important sources of proteins, and in many countries in which protein malnutrition is common, there are great possibilities for the use of fish. This paper, by the Nutrition Division of FAO, discusses the production of edible fish flours. When properly processed, fish flour retains the biologic value of the original material, keeps well, and can be incorporated easily into local foods and dishes.

Heat Stress and Nutrition. This article is concerned with the way man responds to heat stress and how this response might affect his nutritional status. Physiologic adjustments must take place to maintain the thermal equilibrium of the body. Some of the possible effects of these thermo-regulatory changes on the nutritional status are considered. These include: the effect of high environmental temperatures on human energy requirements, the loss of body nutrients through perspiration and dermal losses, heat stress and the general adaptation syndrome, and the combined effects of heat stress and malnutrition on skin function.

Postoperative Malabsorption Syndrome. Experience with two patients indicates that pancreatico-dudenectomy may affect the patient's prognosis in different ways. Malabsorption of nutrients and faulty pancreatic secretion occurred in one patient described in this report. Some sequels of pancreatic changes were: increased hypoproteinemia with reversion of the albumin:globulin ratio, and progressive fatty infiltration of the liver. It is felt that this syndrome of protein malnutrition may at times be reversible. It is suggested that early energetic treatment with proteins, by mouth and by infusion, may be a successful first approach.

Obese Subjects and Isocaloric Diets. On 1000-calorie diets with a fixed water and salt intake, obese patients lose weight most rapidly on a high-fat diet with minimal carbohydrate content. It is suggested that on isocaloric reducing diets, some aspects of metabolism in the obese differ from those of the non-obese and that the composition of these diets may induce metabolic changes resulting in marked differences in the rate and extent of weight loss. Also, obese patients on 1000-calorie diets excrete greater amounts of a "fat-mobilizing material" in the urine on a high-fat diet than they do on a high-carbohydrate intake.

Index of Protein Nutrition and Function. The protein nutrition of human adults must be estimated with reference to protein function under standard conditions of stress. The functions of protein in various tissues are directed in general toward homeostasis, and muscular effort is necessary to preserve homeostasis under stress. This fact may be used to define an index of protein nutrition and function in human adults under the standard stress of gravity while sitting and then standing. An explanation of the calculation of this index is presented.

Dietary Differences and Income. The relation of income to some food habits of manual workers' families

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was assessed by subsamples from the British National Food Surveys of 1954, 1955, and 1956. Energy requirements were virtually constant for the four income groups studied. The higher-income families showed almost no preference for foods richer in protein or calcium.

COLLEGE AND UNIVERSITY BUSINESS

Vol. 25 September 1958

*The little cafeteria in the basement. G. Hardwick.—p. 43.

Little Cafeteria in the Basement. At Douglass College, the women's college of Rutgers University, the Home Economics Department operates a recently remodeled and replanned cafeteria that represents a solution to most of the problems raised by the need for training in quantity cookery. This cafeteria serves as a practice cafeteria in which students really can work, and at the same time furnishes a supplementary eating place on the campus. It also serves as a demonstration unit for school lunch workshops conducted under the aegis of the Home Economics Department in cooperation with the State of New Jersey. The cafeteria is operated in the basement of the home economics building under the direct supervision of the instructor in quantity cookery. More than a hundred and fifty people eat there at noon every day. The cafeteria is staffed by a cook and an assistant, both women; all other work is done by the students, who obtain experience in doing jobs they will later be expected to supervise. Recent replanning and remodeling combines the latest in equipment with principles of good layout, traffic flow, and efficiency in both the kitchen and dining room.

HOSPITAL MANAGEMENT

Vol. 86, October, 1958

*The search for the missing sense. L. Dardarian.—p. 98.

Cost Responsibility in a Hospital. It is hard to find a hospital where people are motivated by a strong sense of cost responsibility. The whole business of management is measured by the degree to which an individual can organize physical effort and materials to obtain the greatest and best production. Dietary, because its products fairly well defy evaluation, is perhaps one of the least "cost responsible" departments of the hospital. The most common faults of hospital food purchasing are, in summary, buying too many items, from too many suppliers, too many times, and at too many different prices. It is important to have efficient receiving procedures. Do not trust the invoice. When the merchandise is received, it should be checked against the invoice to be sure that you get what you ordered and what you are paying for.

HOSPITAL PROGRESS

Vol. 39, September, 1958

*Good dietitian-patient relations. Sister Mary Jude.—p. 112.

Good Dietitian - Patient Relations. The primary duty of the dietitian is the supervision of the production and service of quality food. Good management is the key to achieving this goal. The dietitian should carefully examine the procedures used in her department and see that everything is being done in the best and most economical way possible, with the end result being attractive and tasty meals. The dietitian should attempt to arrange her own schedule so that it will allow her time to visit patients. This is most important in creating satisfactory dietitian-patient relationships. An initial interview will enable the dietitian to learn the dietary habits of the patient and to acquaint him with dietary procedures. In discussing his eating habits, the dietitian will be able to meet not only his medical dietary needs, but often will be able to improve his basic nutritional habits as well as those of his family through the use of a little informal education. This is an opportune time, too, to explain the doctor's dietary orders and the reasons for them. Another good public relations opportunity for the dietitian comes when she is instructing a patient who must remain on a modified diet after leaving the hospital. She should keep in mind the patient's habits, his home life, and his economic status when suggesting certain foods. An invitation to phone or write the dietitian if any difficulty is encountered in following the diet will cement relations between the patient and the dietary department.

INPLANT FOOD MANAGEMENT

Vol. 5, September, 1958

*History of inplant food service. J. W. Stokes.—p. 36.

History of Industrial Food Service. This article will form the first chapter of a book on industrial food service to be published this year. It cites the highlights in the history of industrial food service. The basic motif that runs through the history of employee feeding is the employer's responsibility for his employees. No longer does this take the form of paternalism. Modern social and economic conditions make the feeding of the worker on the job a necessity. Advances in the science of nutrition have revealed that good food served under attractive conditions increases productivity in plant, office, and shop. Thus the employees' cafeteria makes a vital contribution to better working conditions and greater cooperation and teamwork between management and all members of the working force.

INSTITUTIONS

Vol. 43, September, 1958

*How to select uniforms that sell and serve.—p. 7.

*Sanitation for food service workers. T. M. Richardson.—p. 8.

*How to encourage employees to "talk back" to management. J. A. Ritchey.—p. 10.

*Promote young or old employees? A. D. Christopher.—p. 47.

*How to avoid pitfalls in kitchen planning. P. R. Broten.—p. 106.

*The design of cafeteria counters. M. Chartrand.—p. 110.

*Win children's appetites. J. Calabrese.—p. 115.

*Seasoning food for children. R. J. Pfister.—p. 121.

*Are centralized kitchens the answer to costs?—p. 138.

*Centralized kitchens: systems for efficient hospital service. A. G. Kick.—p. 144.

*Keeping pilferage under control. J. D. Fellers.—p. 147.

Vol. 43, October, 1958

*The design of cafeteria counters. M. A. Chartrand.—p. 6.

*Sanitation for food service workers. T. M. Richardson.—p. 14.

*Shopping the nation for tableware for the Air Force Academy.—p. 56.

*How the U. S. Air Force Academy plans fast food on a "mister" basis for cadets.—p. 58.

*Quality food for future air officers at U. S. Air Force Academy.—p. 64.

*Why hire a food service consultant? Part 1. D. D. Rhoads.—p. 128.

*A practical guide to microwave cookery.—p. 130.

*How to avoid pitfalls in kitchen planning. P. R. Broten.—p. 131.

*Operator outlines employee training methods. F. J. Abood.—p. 158.

*Practical methods of controlling food costs.—R. L. Rosenblatt—p. 167.

Uniforms that Sell and Serve. Fashion has taken over the uniform of today and taken it out of the uninteresting "work dress" category. A uniform can be not only stylish, but it can also serve as an integral part of the over-all decorative scheme. If the atmosphere is formal and subdued, the uniform should be conservative in both style and color. However, if an informal atmosphere is desired, gay and cheerful uniforms will contribute greatly. Today's uniforms offer the very latest in fashion—with an added plus. They are also practical, durable, and serviceable and, most important, they allow ease of movement. Remember that an unattractive, ill-fitting uniform will create an unpleasant impression. A smart-looking uniform will give the impression you want—that of a neat, clean establishment that offers tasty, attractively-prepared food. When ordering uniforms, consider style as well as the usual factors of durability, serviceability, and practicality.

Sanitation. Sanitation means the application of a treatment designed to inactivate bacteria remaining on equipment and utensil surfaces after cleaning. The two distinct types of soil encountered on utensils and equipment are: (a) visible soil resulting from the use of equipment in the preparation, handling, and vending of food and drink, and (b) invisible soil remaining after the cleaning operation. The latter is composed largely of bacteria. Unsanitized equipment and/or utensils, though visibly clean, may have bacteria on their

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surfaces that are capable of infecting food and causing food infections or toxemia. Four methods of sanitation may be used: steam, hot water, hot air, and selected chemicals. Steam is usually not available. The hot water method is used by many establishments. Hot air methods present many difficulties. Lukewarm chlorine baths constitute the most widely used method for sanitization of eating and drinking utensils, as well as other food preparation equipment.

Helping Employees to "Talk Back." The article discusses the problem of upward communications from employee to employer. There are two categories of information communicated upward from employees to their employers. The first is through official reports. They usually indicate whether instructions were carried out and in what manner. The information they convey serves as a basis for issuing other downward communications and for planning and controlling other activities. Official reports may be either written or oral. The second category of information communicated upward includes the opinions, ideas, suggestions, and complaints of employees. Conveying such information up the line in an organization can do much to improve efficiency and even profits. However, since such communication is voluntary and not required by the job, it is much harder for management to achieve successfully than official reports. Ways to get such communication from employees include suggestion systems (with or without rewards for ideas); interviews, which can be difficult; attitude surveys; contests and campaigns; committees; union publications; social and recreational programs; rumor box; and an "open door and open mind" policy. The open mind is more important than the open door. Management must be receptive to what the employees have to say.

Promote Young or Old Employees? It is the author's personal conviction that in many instances the older employee may be a better risk for promotion than the younger. The older employee knows more about the establishment, his superiors know more about his capabilities, and he can be depended on to stay with the organization longer. Moreover, promoting from the ranks is fundamental in maintaining morale. The author does not wish to imply, however, that people should be promoted solely on the basis of long, loyal service, without being ready. They must possess the qualifications required to develop into successful executives. The young college graduate, fresh out of school, needs some years of personal growth and business experience to acquire these qualifications.

Avoiding Pitfalls in Kitchen Planning. A checklist of items often forgotten in food service planning is presented. The author does not claim that the list is complete; he just mentions some of the most common things which are often forgotten. The general categories are: (a) architectural items; (b) employee facilities; (c) specifications for kitchen equipment; and (d) items frequently omitted, i.e., fire extinguishing provisions, ice making and storage, extra spare parts, and so on.

Design of Cafeteria Counters. Solutions to various problems which occur in a cafeteria operation are presented. Ways to reduce waiting time and servicing time are discussed. Some of these solutions are: place silver, for instance, away from the line, either at the beginning or the end; place the check-out station away from the line; allow the patrons access to the counter at several points; place together the food items that patrons buy together; and build wide traffic lanes to permit by-passing.

Win Children's Appetites. Menu variety and imaginative preparation, when geared to the level of children, will definitely increase their interest in meals. Although children prefer simple and familiar foods, they do respond to a certain amount of colorful and interesting garnishing or to changes in menu routine. To maintain a basically sound menu which is also as flexible, varied, and imaginative as possible, the New York City Department of Welfare uses a system of both long and short range planning. A twenty-eight-day master rotating menu constitutes long-range planning. This is then supplemented by daily or almost daily "spot menu chats between dietitians and cooks." In these menu chats, the dietitians explore the possibilities for introducing spur-of-the-moment variety by using leftovers or surplus supplies or catering to some current event which has interested the children. Popular dishes which are native to other countries, or other parts of our country, are introduced into the menu for variety. Garnishing is a matter that often needs re-emphasis, or it is easily forgotten. For children, the art of garnishing food is simple: the use of bold, colorful, simple, and amusing colors and textures. When the children's menu is given as much attention as an adult menu, it is not difficult to influence the little ones to eat properly.

Seasoning Food for Children. In preparing foods for children, a gentle use of spices and herbs is a way of improving appetites, especially when using problem foods, without throwing a budget out of line. The chef-author reports that he has found it best to try to vary the flavor of a food without making a radical change. Children are quick to become suspicious of "new" foods and often rebel against them. However, if you can find a way of making the food they know taste just a bit better, they are usually just as quick to accept it. Some of the chef's best ideas for seasonings for children are listed.

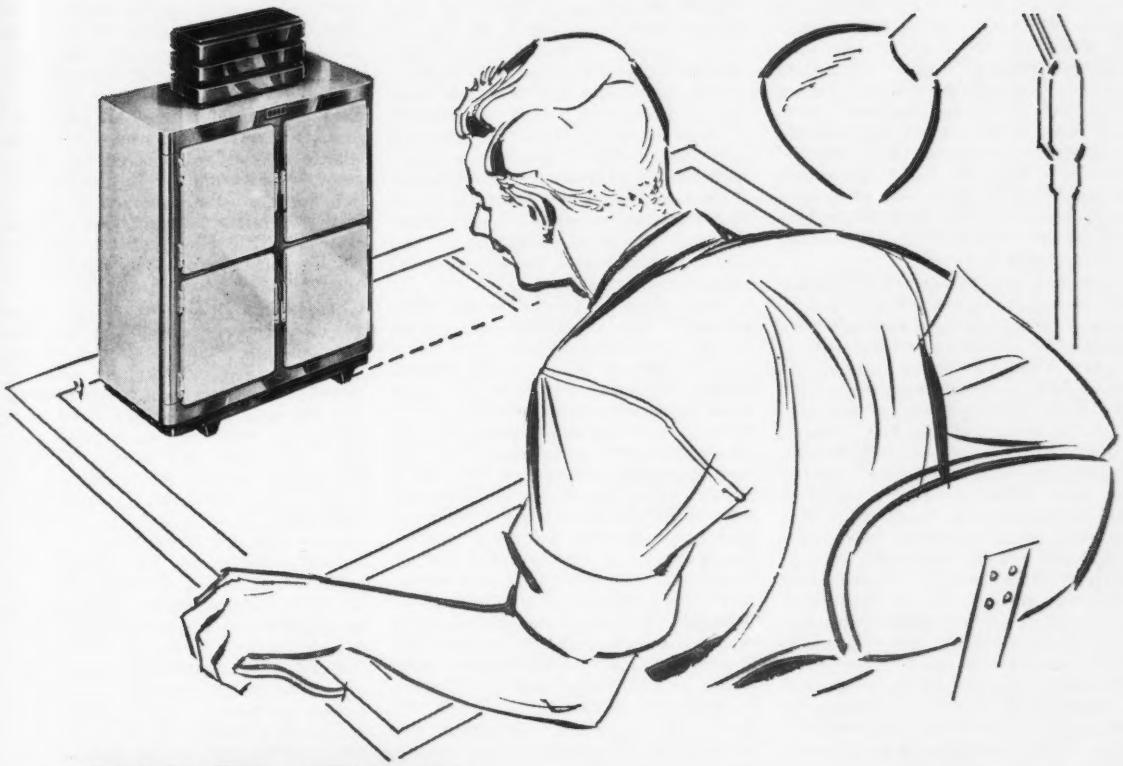
Are Centralized Kitchens the Answer? Completely separating food production from service is seen by many leading operators as the best method of beating today's high costs. This article is an interview with the manager of a commissary serving ten restaurants on the Indiana Toll Road. She states that, no matter how big or small, the commissary is actually a food production factory, working on a regular production schedule. It is important that work flows at a steady pace. There should be no overcrowding of equipment; allow room for employees to work, or their work will be interrupted. In the operation described, pre-cooked foods are transported as far as 200 mi. to the "retail" outlets. In the restaurants, frozen foods are reconstituted and prepared for service in pressure steamers. A microwave cooker is being tested. It is felt that the weak link in equipment for the commissary is in packaging. The machines demonstrated so far do not deliver more individual portions than can be processed manually. However, it is expected that better equipment will soon be available, as more and more operators are getting into the frozen food commissary type of operation.

Efficient Hospital Service. There are two types of centralized food service used in hospital kitchens today. One is the tray assembly counter method; the other is based on the use of carts of various types which are wheeled through the kitchen to pick up hot and cold foods from the various departments. Variations of these two systems are described.

Controlling Pilferage. To minimize pilferage by employees, first be sure that the supervisors do not indulge in this practice. They cannot effectively deal with pilferage, if they are involved themselves. Supervisors should be a good example for employees. Develop a system of workable controls. Make sure the purchasing procedures are correct and that you have good accounting methods. A systematic check should be set up for receiving. All commodities should be kept on perpetual inventory and securely controlled until issued. Keep control records as simple as possible, yet allowing accuracy. Controls are essential even to a small food service operation.

Cafeteria Counters. Ten different approaches to the design of cafeteria serving lines are evaluated by the author in the concluding installment of a series. Sketches of various counter layouts accompany the article to illustrate the ideas suggested. The author describes advantages and disadvantages of the different plans.

Sanitation for Food Service Workers. The last steps in the dishwashing procedure are discussed. Either chemicals or hot water may be used in this process, if properly applied. The water should be maintained at a temperature of 170°F. The immersion of utensils should be for at least 2 min. A suitable drain board to use after the final sanitizing treatment should be avail-



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able. The use of towels is contrary to all sanitation procedures. Proper storage should be provided for all clean, sanitized utensils. They should be carefully stored well above the floor, in a clean, dry place, protected from rust, rodents, and insects. They should be covered or inverted and so located that they may be easily accessible for service. The fingers of food service personnel should have no contact with surfaces with which the mouths of people are involved.

Shopping for Tableware. Harmony with all design elements was a "must" when serving pieces and flatware were selected for the cadet dining hall at the new U.S. Air Force Academy. It was decided to choose stock items with only slight modifications where necessary to maintain the basic design theme. There is a close identification between the stainless steel flatware that was chosen and the stainless steel serving pieces. Much effort was expended to obtain items with continuity of design, since few manufactured items fulfilled the required functional need of the Academy and the design need established by the planners. By working with the manufacturers, the designers were able, with minor adjustments, to adapt and modify existing pieces to conform to their plans. They were also able to create multiple uses for certain pieces.

Fast Food on a "Mister" Basis. When a food facility is regularly scheduled to serve meals to as many as 3000 persons at one time, to do it family-style with waiter service, and to clear the dining room 30 min. later, ultra-careful planning is needed. At the U.S. Air Force Academy, these problems were solved by creating a multi-level operation in which bulk storage and pre-preparation, even to salad making, were concentrated on one floor with the unique double kitchen on the dining level reserved for final cooking. Needless to say, a great deal of planning was necessary to insure that the food service would fulfill all of its functions. Here are some of the requirements that had to be met: that the entire corps of cadets be able to eat a complete meal in a half-hour, from time of seating to time of leaving; that the food be prepared as soon before service as possible to assure highest quality; that adequate storage space be provided because of the remote location of the Academy and because of the possibility that roads might be closed by snow and ice for two to three days during winter. Because of the huge load on kitchen facilities, in terms of both number of personnel at work and the amounts of food to be delivered at one time, a unique kitchen was designed. Some of its features are described.

Quality Food for Future Air Officers. Meals at the U.S. Air Force Academy are planned on a ten-day cycle. These menus are processed through a local medical authority to ascertain proper balance and caloric content. Menus are prepared at least twenty days in advance. To satisfy cadets' appetites and to gain insight into food preferences, an acceptability slip is placed at each table at every meal. Comments and suggestions indicate trends in likes, dislikes, and preferences. Lunch and dinner meals include meat, vegetables, salad, bread, dessert, and beverage. A typical breakfast includes coffee, fruit juice, milk, hot and cold cereal, meat, eggs, and toast. Typical menus for two days are reproduced in this article.

Why Hire a Food Service Consultant? The knowledge of a food service consultant can help an operator to plan a better, more efficient layout. The savings in labor will more than pay for the consultant's fee. He can aid in selecting the proper equipment which will be most suitable for the operation and which will have low maintenance costs. He develops new ideas for improving equipment and methods. The proper procedure for planning a food service facility should be: (a) the owner and architect should select a consultant who is satisfactory to both and discuss with him desired accomplishments, type of service, menus, labor budgets, and ideas; (b) the consultant will present preliminary drawings, followed by floor plan drawings indicating the arrangement of equipment and schedule of items; and (c) specifications of food service equipment should be prepared by the consultant and supplied to the architect. By working together, operator, architect, and food service consultant can provide the best possible facility.

Practical Guide to Microwave Cookery. When microwave energy comes into contact with a substance, any one or a combination of three things can occur: it can be reflected (as in the case of metal utensils); it can be transmitted (through paper and china products, for instance); and it can be absorbed (by raw, pre-cooked, refrigerated, or frozen foods). When microwaves strike any surface of a food being heated, they penetrate, producing instantaneous heat not only on the surface, but deep inside the food as well. It is important to allow for "carry-over" heating in microwave cookery. When cooking a larger item, a roast for example, the inside will not be cooked to the right degree when the outside is finished. However, if the roast is left in the oven until the inside is the right degree of doneness, the outside will be overcooked. This is where the principle of carry-over cooking comes in. The proper procedure is to remove the item from the microwave oven before the center temperature has reached the desired degree of doneness. Heat will move to the center via conduction, and the center will be cooked to the right degree. Nutritive studies indicate that foods cooked by microwaves enjoy a very high nutrient retention.

Avoid Pitfalls in Kitchen Planning. When planning your kitchen, begin by putting yourself in the place of the customer, the waiter, the kitchen employees, and management. See what needs must be met and plan the best possible way to meet them. After a reasonably complete set of plans has been formulated, the operator must obtain competitive bids for the fabrication and equipment. In a renovating job, work must be planned so that it will move along as quickly as possible, with as little disruption as possible. In the entire procedure, planning is the key word.

Training Produces Loyal Employees. The success of any business depends on the capabilities of the personnel. An outstanding employee usually has a correct attitude towards his job and his employer. He must enjoy his work and take pride in a job well done. He must be loyal. Employees with these traits are not found; they are trained. You must start with the interview. At that time, you can get a general picture of the employee-to-be. If he seems well adjusted and has a normal and happy home life, he usually develops into an outstanding employee. Once hired, he should be introduced to his coworkers and assigned to train with an older employee. He should be issued a training manual which will explain his duties and responsibilities and which contains the policies and regulations of the establishment. Plan meetings of your key staff at least once a week. At these meetings, encourage employees to express their ideas. The employer can cultivate efficient and loyal employees and through their efforts, achieve success. Ideas for meetings with waitresses, cooks, and other personnel are included in the article.

Methods of Controlling Food Costs. No matter how efficient and modern the layout, any food service operation is doomed to failure without adequate control of food costs. The author outlines cost-saving procedures under seven separate functions, each of which represents a distinct step in the process. They are: menu planning, purchasing, receiving, storing, issuing, preparation, and serving. Menu planning, purchasing, and receiving are discussed in this article. The other topics will be covered in following articles. The contents of the refrigerators and storeroom should be the first consideration of the menu writer. Failure to check the food on hand results in direct loss through spoilage, inferior taste due to over-long storage, and ultimate over-loading of the menu with leftover items. These serve to increase food costs or lose customers or both. Consider preparation problems when planning a menu. Include as much seasonal and locally grown food as possible. Food costs begin at the time of purchase. Buying must be on a competitive basis and with strict adherence to a rigid set of specifications if it is to be effective. Be certain that your buyer is honest. In the receiving department, the clerk must

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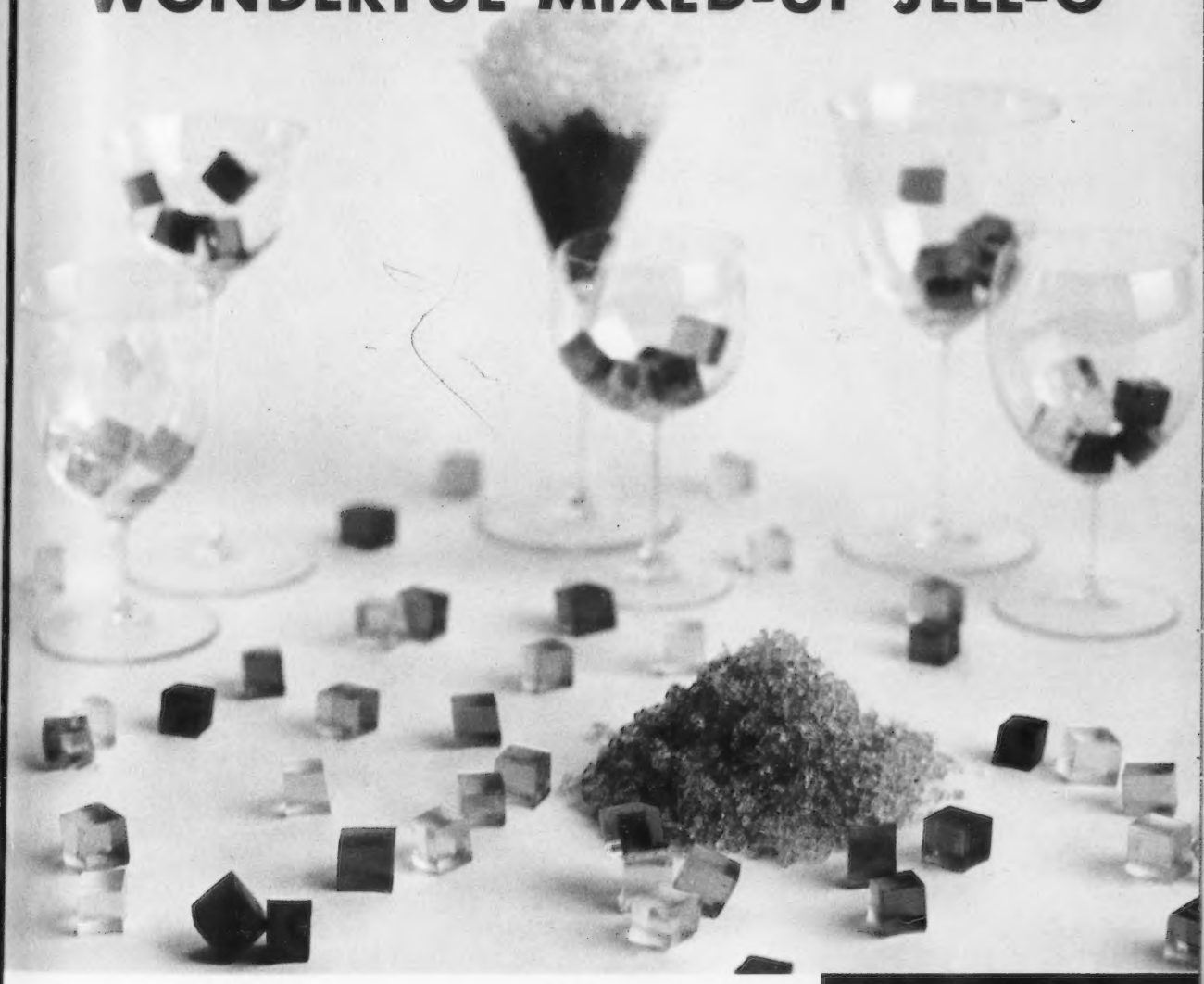

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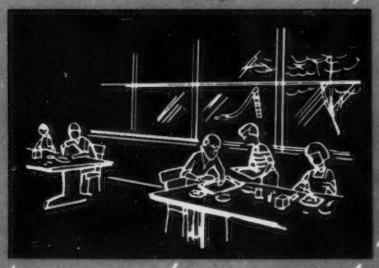

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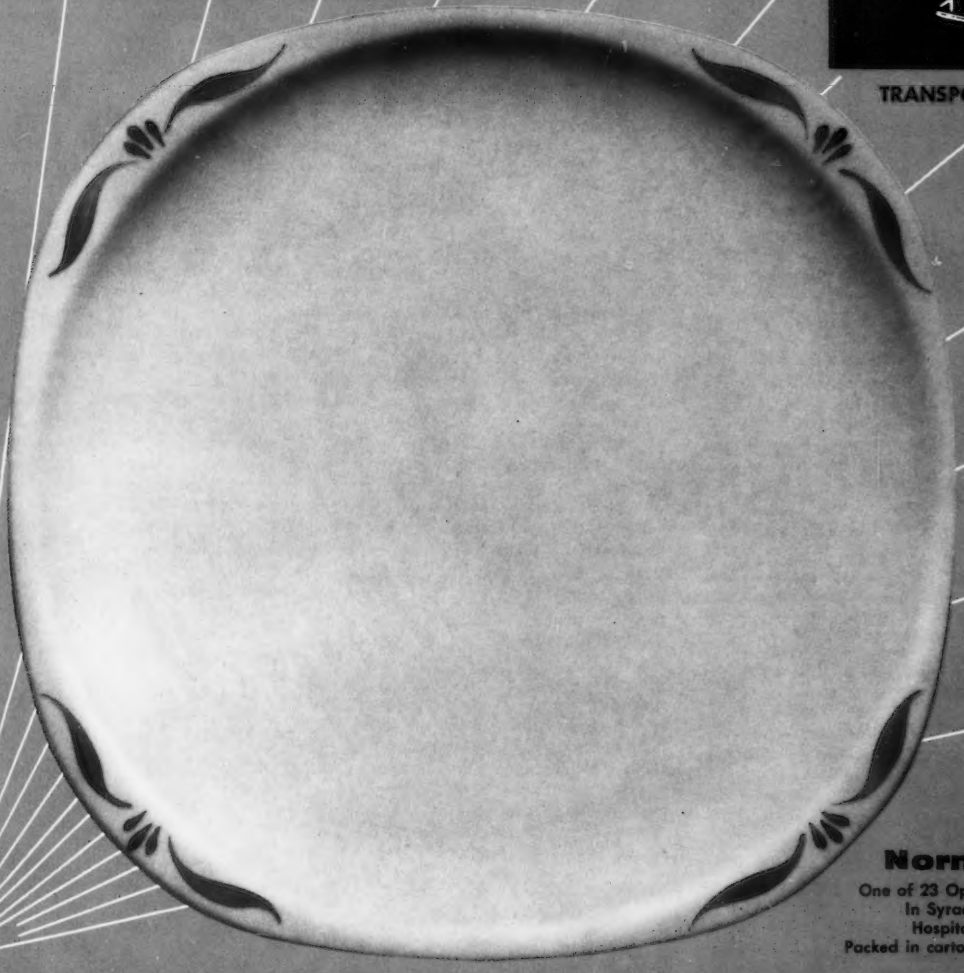

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NRA NEWS

Vol. 1, September, 1958

*The supervisor as a personnel manager. T. Elliott.—p. 11.

The Supervisor as a Personnel Manager. In an operation which has more than six or eight employees, the manager must delegate some of his managerial responsibilities to one or more others. These supervisors represent him; they act for him. The supervisor has no responsibility or authority which the manager himself does not have. The supervisor becomes the major point of contact with the worker. In effect, the supervisor is the personnel manager. He is responsible for the work of every employee under his supervision. Inadequate and ineffective supervision can be very costly. The manager should know how to delegate responsibilities to his supervisors. Duties and authority should be clearly outlined so that everyone knows what he is to do. Then, too, every worker must know that he works for a management and a supervisor and to whom he can go with problems and to report.

RESTAURANT MANAGEMENT

Vol. 83, September, 1958

*Cooks and waiters—why do they fight? J. Damon.—p. 48.

Fruit: around the clock the year around. A. and G. Eiss.—p. 53.

*A new look at canned foods.—p. 60.

*Fish and seafood: ideas, profits, preparation. —p. 71.

*Making the most of fish. A. Easton.—p. 77.

*Tips on trout.—p. 81.

Cooks and Waiters—Why Do They Fight? Arguments between cooks and waiters have one common origin: misunderstanding in transferring orders from the waiters to the cooks. To avoid mistakes when orders are given to busy cooks, the waiter should be sure that: (a) the attention of the cook is definitely turned to his orders; (b) the cook gets the number and name of the dish; (c) the orders are given slowly and clearly; (d) all unnecessary words, which divert the attention of the cook, are avoided; and (e) during rush hours, the cook is given a slip of paper on which the orders are written plainly, if it contains four or more items.

Canned Foods. Canned fruits and vegetables are passing through a revolution that is producing constant improvements. When buying canned goods, buy according to your needs and type of operation. While most canned goods are purchased in large containers, there is sometimes an advantage and economy in buying smaller sizes. Foods used as garnishes or as special ingredients are examples in which a supply of smaller cans is convenient. Canned food should be placed in a cool, dry, well ventilated storeroom near the kitchen. An important point to remember when preparing canned foods is that they are cooked foods. They should not be overcooked in heating.

Fish and Seafood. While most restaurant men admit that breaded, ready-to-cook, portion-control frozen fish offer definite advantages in preparation time, many have never stopped to itemize the exact time and cost of preparing fillets. Cellophane-wrapped fillets must first be defrosted after removal from the freezer. Usually this requires several hours. There is normally about 10 per cent drip loss in defrosting, resulting in flavor loss. Then the fillets must be separated and cut into portions. There is no guarantee that portions will be uniform, and there is a probability of waste. The portions then must be battered and breaded before they are ready for the fryer. A big, frequently-overlooked final step is the clean-up. A breakdown of comparative costs shows that there is absolutely no saving in using Cellophane-wrapped fillets. In addition, other advantages of portion-packed breaded fish are time and labor saving, a steady price, and year-round availability. Breading is more apt to be uniform. Quality control is easier and purchasing of seafood becomes less time-consuming. There is no shrinkage, waste, or spoilage. Since they are cooked frozen, there is no loss in defrosting.

Making the Most of Fish. Suggestions for different ways to serve fish are presented. Some of these are fillet of haddock baked in Spanish sauce, broiled scrod with chopped stuffed olives and minced onion, broiled flounder with puffy cheese sauce, poached halibut with shrimp Hollandaise sauce, baked fillet of flounder with mushrooms in cream, and pompano *en papillotte*. Sauces should complement the flavor of the fish, not cover it up. Methods of broiling and frying fish are described. Today it is easier than ever before to serve fish because portion-controlled fillets have eliminated guesswork and much of the labor. Fish can be sold at a good profit, it adds variety to your menu, and it provides high quality protein and low-calorie content.

Tips on Trout. Trout is practically the perfect fish. It is high in quality, low in calories, easily digested, and available. It is easy to cook, but because of its delicate flavor, should be cooked with special care. For best results, trout should be thawed at room temperature or in the refrigerator, instead of submerging in water. Hot or cold water softens the texture of the meat and decreases the firm, bland qualities. Suggestions for preparation of trout, as well as recipes for several sauces, are presented.

WHAT'S NEW IN HOME ECONOMICS

Vol. 22, October, 1958

*Buying canned foods.—p. 38.

*Modern ways with fresh vegetables. F. L. Beinert.—p. 50.

*Modern ways with dried vegetables.—p. 55.

Buying Canned Foods. Convenience is only one advantage of modern canned foods. They are safe, sanitary, uniform in quality, and high in nutritive value since processors know how to retain their valuable nutrients. Because canned foods have been steadily improved in quality, taste, and appearance, their acceptance has steadily increased. Today, there is an endless variety of canned food available. The article describes the different types of cans, different sizes, and tells what their specific uses are. It is suggested that the homemaker keep two selections of canned foods conveniently at hand—one for everyday meals, the other for parties and snacks. Even the safe and proper storage of leftover portions of canned foods is no problem today. If desired, the food can be left in its original container, if it is covered and refrigerated. The can in which the food was processed is the cleanest of storage containers.

Fresh Vegetables. Modern marketing methods and popular cooking techniques are the two outstanding aspects of modern ways with fresh vegetables. The trend toward prepackaging fresh produce is the big change in the marketing picture. More and more homemakers are accepting this method of purchasing. The drawback, so far, is that the complete confidence of the homemaker has not yet been won and she has not been assured that the produce which she purchases pre-packaged will be of uniform quality. The second aspect of modern ways with fresh vegetables concerns modern vegetable cookery. Modern techniques reflect the results of research in the preservation of maximum eating quality of the product and in the maximum retention of nutritive value. It is recommended that fresh vegetables be pared, trimmed, and cut just before cooking and that the vegetables be cooked in the smallest amount of water compatible with the adequate cooking of each type of vegetable; that the vegetables be cooked quickly in a tightly covered pan; and that they be cooked only until just tender. Also to be noted is the ever-increasing popularity of fresh vegetables, uncooked, in salads.

Dried Vegetables. Dried legumes have been a hearty staple food for many generations. Today, potatoes in shredded, flaked, or powdered form, and shredded or instant onion have been added to the list. Each is easier than ever to prepare and can add much variety to the menu. From time to time new forms, packs, or types of dried vegetables or dried vegetable dishes appear on the market. The wise homemaker looks for them, learns about the product, and learns the best procedures for preparing and serving to bring more convenience and taste pleasure to her family.

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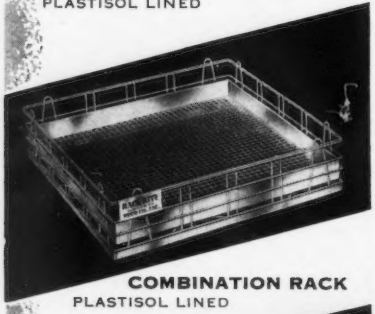

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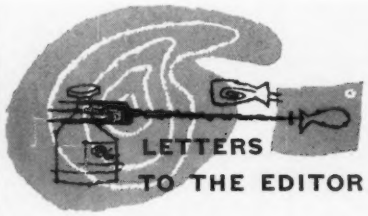

Cost of China Replacement

TO THE EDITOR:

In "Letters to the Editor" in the August 1958 issue of the JOURNAL, you published a letter from Anna Katherine Jernigan, Dietary Consultant, Iowa Department of Health, Des Moines, in which she challenges "someone to answer the questions posed on profit and loss statement and on the relative cost of china replacement."

In partial answer to this challenge, I can refer Miss Jernigan to records to compare her figures with those on relative cost of china replacement. John D. Fellows, Director, Health Center Food Service, University of Florida, Gainesville, has conducted a dish-silver-utensil study this past year. At the present time, he is summarizing the results of this study and information should be available in the near future.—*Esther G. Woodruff, Chief, Dietetic Service, Veterans Administration Hospital, West Haven, Connecticut, and Chairman, Food Administration Section, The American Dietetic Association.*

Linoleic Acid in Corn Oil

TO THE EDITOR:

The recent paper by P. A. Stefanik and M. A. Trulson, entitled "Modifying the Fatty Acid Content of the Diet", in the June 1958 issue of the JOURNAL prompts me to write you concerning the composition of corn oil.

We are aware that several commonly used reference books and charts give a low value for the linoleic acid content of corn oil. Historically, this is the average of many literature values and includes data on oils from all types of corn, many of which are not processed or grown in the U.S. In addition, many of the older analyses are based on procedures which are now recognized as unsatisfactory.

I would particularly like to draw attention to the fact that the Committee on Fats in Human Nutrition of the Food and Nutrition Board, National Research Council, in its recent report, *The Role of Dietary Fat in Human Health*, gives a value of 56 per cent for the linoleic acid content of corn oil. Coons, in her recent article "Fatty Acids in Foods" (J. Am. Dietet. A. 34: 242, 1958), points out the wide range in the literature values on the composition of corn oil, but places it at the 56 per cent linoleic level in her chart comparing various fats and oils.

If calculations are based on a falsely low linoleic acid value for corn oil, one comes up with a false and unnecessarily high figure for the amount of corn oil needed to reach the desired fatty acid ratio of linoleic acid to saturated fatty acids.—*Dorothy M. Rathmann, Ph.D., Research Department, Corn Products Refining Company, Argo, Illinois.*

TO THE EDITOR:

The problem of the linoleic acid content of corn oil should be cleared up by consulting the table presented in *The Role of Dietary Fat in Human Health*, to which Dr. Rathmann refers. In our paper, we used the tables of Drew Incorporated. We are changing some of our figures. However, there will always be some variation in analysis.—*Martha F. Trulson, Sc.D., Department of Nutrition, Harvard School of Public Health, Boston.*

Needlework to Relieve Tensions of a Therapeutic Diet?

TO THE EDITOR:

As a by-product of our concern with women's activities, we've stumbled on something which may be of interest to you. We at Coats & Clark are becoming increasingly conscious of the new, non-commercial therapeutic role needlework has come to play in our modern world.

More and more doctors are recommending needlework to their patients for mental ease and stability, to relieve nervous tension and furnish a creative outlet. Thus, on an everyday level, the age-old art of needlework becomes as new as the tranquilizer, and, we feel, more constructive.

Is this the kind of suggestion that could be of value to women forced to follow a diet for medical reasons? Knitting, for instance, would seem to me to be a definite calming agent. And I should think a woman on a reducing diet could hold out her own proverbial carrot by making an article of clothing to fit her future, slimmer size.

In this feasible from a scientific viewpoint?— *Ann Harrington, Coats & Clark, New York, New York.*

EDITOR'S NOTE:

Your question regarding the therapeutic value of needlework, particularly for those "forced to diet," seems very logical. We don't know whether observations or studies have been made on the practical rewards of such work in providing an incentive, but it would seem a worthwhile project. Theoretically, it might benefit at least those individuals who become sufficiently expert to pass the frustrations of the "bungling" phase. (We have known people who would find knitting anything but "tranquilizing.")

SPECIAL DIETS

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WITH GERBER STRAINED FOODS

1.

No cooking or special preparation required. Gerber Strained Foods are ready to heat and serve "as is" or mix with other foods.

2.

Low cost per serving – about 10¢ to 23¢ per serving, even less for Cereals. One portion containers minimize waste, encourage variety.

3.

Suitable for most therapeutic diets. Moderately seasoned – smoothly pureed consistency. All Gerber Strained Foods and Cereals have a low crude-fiber content – meats also have a low fat content.

4.

Over 45 Gerber Strained Fruits, Vegetables, Soups, Meats, High Meat Dinners and Desserts to provide tempting variety.

Gerber® Products

Special offer! For therapeutic diets of long duration, Gerber's "Special Diet Recipes" offers over 95 easy-to-fix recipes and menu suggestions for bland, soft, or low-residue diets. For your own or your patients' use. For free copies, write to: Gerber Products Company, Dept. ?312-8, Fremont, Michigan.

Pan American Sanitary Conference. Meeting September 21 through October 3 in San Juan, Puerto Rico, delegates to the XV Pan American Sanitary Conference reviewed the public health programs throughout the Americas and planned next year's programs. The Conference voted to change the name of the organization, which is the regional arm of the World Health Organization in this Hemisphere, to "Pan American Health Organization" and elected Dr. Abraham Horwitz of Chile as Director to assume office on February 1, 1959. He will succeed Dr. Fred L. Soper of the U. S.

Funds for use in the 1959 public health operations of the organization will total around $10,600,000, plus additional donations that may be made during the year. With these resources, the Organization will render assistance to public health administrations in their operation of some 215 health programs.

A highlight of the Conference was a report of the progress made during the last four years of the Malaria Eradication Program. In all but two of the countries in the Hemisphere where malaria has not been eradicated, national malaria eradication programs are under way. Eradication is already a *fait accompli* in Chile, the U. S., Puerto Rico, Barbados, and Martinique.

Another report of interest was that on the work of the Institute of Nutrition of Central America and Panama (INCAP). More than 1000 fellows have participated in courses or studies in which INCAP has cooperated. They have come from nineteen of the twenty-one American republics and twenty-five countries outside the Americas. There is still need for more training in nutrition, however. The Conference recommended that the governments of the Americas intensify their surveys on nutritional conditions, the enrichment of foods and exchange of basic food products to help overcome their chief nutritional deficiencies. They were also urged to give due weight to nutrition in the curricula of medical schools and in post-graduate courses, recognizing that nutrition is a fundamental public health problem in this Hemisphere.

Dr. Hoobler Honored. In June, the Merrill-Palmer School, Detroit, named Dr. Icie G. Macy Hoobler as one of three recipients of the School's Award Citations. Her citation reads: "Icie G. Macy Hoobler . . . devoted student of the chemical mysteries and tides in the human body, tireless follower of William Harvey's injunction to 'study out the secrets of nature by way of experiment,' she has made important theoretical and practical contributions to the understanding of nutrition in relation to human growth and reproduction. To the many honors and awards given her for the long series of studies begun in Detroit in 1923, Merrill-Palmer adds this citation in recognition of the distinction she has brought to the institution, as well as her contribution to the understanding of human life."

According to the USDA, the following foods should be in plentiful supply during December:

Protein foods
Chickens—broilers and fryers
Peanuts and peanut butter
Turkeys
Other foods
Apples
Cranberries
Dates
Honey
Olives, canned, ripe
Peas—canned and frozen
Vegetable fats and oils

Other suggestions for foods to feature in December come from the National Association of Frozen Food Packers. Its recommendations are:

FROZEN FRUITS AND DESSERT PIES

Apples—for pies and other spice-apple-and-pastry dessert combinations. Available in 10- and 30-lb. containers.

Cherries—for bright-colored, tart sauces to serve with meats and in pies. Available in 30-lb. containers.

Raspberries—for cobblers and toppings on ice cream or prepared cereals. Both black and red available in 30-lb. containers.

Strawberries—for winter shortcakes. Available in 30-lb. containers.

Dessert pies—for increasing the variety for dessert choices. Available in various sizes.

FROZEN VEGETABLES

Green beans—for variety, serve with sauce of condensed mushroom soup. Available in 2½-, 50-lb., and other containers.

Lima beans—for use in succotash, or buttered. Available in 2½- and 50-lb. containers.

Corn—especially good with pork and poultry specialties. Available in 2½-lb., 50-lb., and other containers.

Peas—always a favorite. Available in 2½-lb., 50-lb., and other containers.

Potato products—many kinds available for quick serving. In package sizes to suit different needs.

FDA Appointment. Dr. Paul L. Day has been appointed to a new position, that of Scientific Director of the U.S. Food and Drug Administration. "This position," according to George P. Larrick, Commissioner of Food and Drugs, "has been established to strengthen the scientific organization of the FDA. Dr. Day, who was formerly head of the Department of Biochemistry of the University of Arkansas School of Medicine, will be responsible for maintaining the scientific quality of our work and for coordinating all of our research efforts, both in Washington and in our field laboratories across the country."

Booklet on Weight Control. A new booklet, *How to Control Your Weight*, has been issued by the Metropolitan Insurance Company to replace the older publication, *Overweight and Underweight*. In the new publication, more emphasis has been placed on the "why" of overweight and on re-educating one's appetite so that weight loss can be maintained. No important changes in the suggested meal plans or the calorie table have been made. Seven steps for the overweight person to follow are listed. A moderate number of this booklet may be obtained for educational programs from the Home Economics Bureau, Health and Welfare Division, Metropolitan Life Insurance Company, One Madison Avenue, New York 10.

Government Publications. "How to Buy Eggs by USDA Grades and Weight Classes" is the title of the new Leaflet No. 442, issued by the U.S. Department of Agriculture. This six-page folder, which is small enough to be carried in a purse, illustrates and explains in simple terms the meanings of the four USDA grades for eggs and the six official sizes or weight classes. It also suggests suitable uses for the various grades and sizes. Grade marks are illustrated and explained, and tips on buying, storing, and using eggs are presented. Single copies of this publication may be obtained from the Office of Information, U.S. Department of Agriculture, Washington 25, D.C.

A second USDA publication is *School Lunch Programs in Elementary and Secondary Schools of the United States* by Kenneth E. Anderson. In it is reported information gathered in a sample survey of 4347 public elementary and secondary schools in March 1957. It was learned that about one-third of the pupils in public schools below the college level participated in school feeding services offering plate lunches. Factors associated with high participation in feeding programs are analyzed, and data grouped by prices paid for lunches are reported in relation to pupil participation in plate lunch programs. Copies of this report may be ordered from the Government Printing Office, Washington 25, D.C., for 25 cents each.

From the Department of Labor comes a publication prepared with the joint cooperation of the Women's Bureau and the Office of Vocational Rehabilitation of the Department of Health, Education, and Welfare. Titled, *Help for Handicapped Women*, the first section describes vocational

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POLAR WARE
stainless steel
Insulated Pitcher

What institution doesn't want to improve service and cut costs? The big question is how! At the United States Air Force Academy, both objectives were accomplished beautifully with POLAR'S great Insulated Pitchers of stainless steel.

Because up to 2500 cadets must be served at one time — and on a Mister basis — there must, by necessity, be long travel and waiting time in the serving of food. With POLAR pitchers — even the lid is insulated — beverages can be prepared hours in advance and maintained either icy cold or piping hot.*

And back of this assured palatability is heavy gauge stainless steel, plus all-welded, not soldered, construction to make these all-purpose pitchers all but indestructible. They will last indefinitely, providing the Air Force with an investment that will pay back favorably for many years.

Of course these qualities that work for the good of the Academy — and the taxpayer — will also work for your good, too. Ask the supply men who call. You'll find the best of them carry POLAR WARE.

For thirsty cadets, refreshing cold water is a *must* . . . and POLAR'S good-looking straight sided pitcher with ice guard spout, pours it readily and safely. It will do the same for you, too.

***Made to exceed all U. S. government standards for holding the temperature of hot or cold liquids.**

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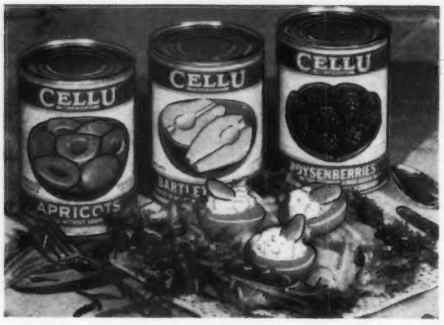
Delicious CELLU
DIETETIC FRUITS
For Low Calorie and Low Carbohydrate Diets



These choice, tempting fruits were specially prepared for restricted diet needs. They are water packed (either unsweetened or artificially sweetened) with food values reduced about ⅓ from that of fresh fruit. When you prescribe or serve these diet foods, you can be confident they are the finest . . . CELLU products comprising more than 300 items represent the most complete selection and the greatest variety of fine diet foods offered by any company in America today.

For helpful data, tables on food, and recipes, ask for the CELLU catalog.

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Simplify Service Eliminate Errors with AATELL & JONES DIET CARDS

- HOLIDAY ITEMS
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Trays are easy to identify with these convenient 2¼" by 1¾" Diet Cards. Eleven standard diet subjects available, each on a different colored sturdy stock. Space allowed for patient's name, room and special notes. Write for samples and prices.

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- Instantly soluble in cold water
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rehabilitation services and how women are helped to find jobs. Another section is concerned with helping the homemaker who may be handicapped herself or have a handicapped member in her family. A third section points out possibilities for service groups to lend a helping hand, and the last part touches on careers in rehabilitation. Interspersed in the book are four case histories telling of ways in which handicapped women have been helped to return to useful activities and lives. The appendix includes both a bibliography and the addresses of state vocational rehabilitation agencies. This publication, which is Women's Bureau Pamphlet 5, may be ordered for 40 cents a copy from the Government Printing Office, Washington 25, D.C.

Pamphlets on Nutrition for Laymen. Twelve articles on nutrition, originally published in *Today's Health*, have now been reprinted in pamphlet form by the American Medical Association. The pamphlets cover the following topics:

"Today's Knowledge of Nutrition"—Elmer Verner McCollum, Ph.D.
"Food for Energy"—Hazel M. Hauck, Ph.D.
"Our Protein Needs"—H. H. Mitchell, Ph.D.
"Our Chief Mineral Needs"—Genevieve Stearns, Ph.D.
"Why Vitamins?"—C. A. Elvehjem, Ph.D.
"What Is Good Nutrition?"—Ruth M. Leverton, Ph.D.
"Keeping the Values in Food"—Bernice K. Watt, Ph.D., and Hazel K. Stiebeling, Ph.D.
"Adolescent Nutrition"—Margaret A. Eppright, Ph.D.
"Underfed or Poorly Fed?"—Grace A. Goldsmith, M.D.
"What Should Oldsters Eat?"—Helen L. Gillum, Ph.D.
"Diet for Mothers-to-Be"—Icie G. Macy, Ph.D., Sc.D.
"How to Eat Well and Reduce Sensibly!"—Helen S. Mitchell, Ph.D.

Each of these eight- or twelve-page pamphlets is attractively printed in two colors and is available at a cost of 15 cents each, with quantity discounts being available. Orders should be sent to: Order Department, American Medical Association, 535 North Dearborn Street, Chicago 10.

Film on Fish Cookery. *Fish Cookery with Savoir* is the title of a 14-min. sound-color film now available for public distribution from the Bureau of Commercial Fisheries, U.S. Department of the Interior. In the film, Monsieur Henri Savoir, an imaginary and imaginative master of fish cookery, renders invisible but pertinent aid to the perplexed homemaker. He emphasizes the value of fishery products for wholesome, tasty, and easy-to-prepare meals. The film was produced by the Bureau of Commercial Fisheries in an effort to gain more general appreciation of the role fish-

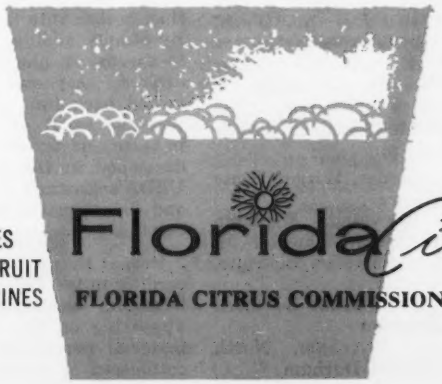
there's no juice like citrus *juice*

As a high-potency source of vitamin C, citrus juice—fresh, frozen, or canned—is unmatched for convenience and economy. The table below shows amounts† of other fruit juices required to supply the 100 mg.* of vitamin C in one glass (7-9 fl. oz.) of citrus juice.

citrus	1 glass
apple	50 glasses
grape	9 glasses
pineapple	3-4 glasses
prune	50 glasses

†Data calculated from: Watt, B. K. et al., U.S. Dept. Agric. Handbook No. 8, 1950; and Burger, M. et al. Agr. & Food Chem. 4:418, 1956.

*This is the peak of the Recommended Daily Allowances for adolescence or pregnancy; 150 mg. during lactation; 70-75 mg. for normal adults.



ORANGES
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TANGERINES

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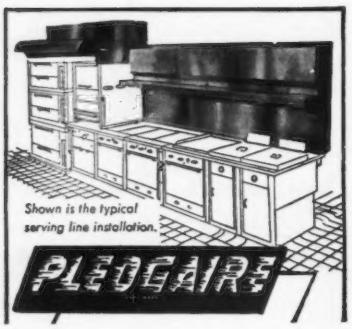

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24 HOUR FIRE CONTROL

is made possible by use of exclusive drop-link baffle. Non-electrical, it is activated when temperature reaches danger point. Instantly stops exhaust air flow!

ELIMINATE the old style, inefficient, unsightly canopy, and improve lighting, cool the kitchen, and reduce cleaning costs. Provided with top air vents, bypasses, filters and all standard features.

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through dealers, consultants, and field representatives nation-wide offer you the correct ventilation for your equipment.

Investigate today . . .

Models available for all cooking equipment: ranges, fryers, ovens, broilers, kettles and steamers; and for any layout, updraft or downdraft.

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Carries National Sanitation Foundation Seal of Approval

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ery products can play in day-to-day meal preparation. The film is available free of charge to large or small groups. Further information is available from the U.S. Fish and Wildlife Service, Department of the Interior, Washington 25, D.C.

Vitamin Interrelationships. On October 24, a "Symposium on Vitamin Interrelationships," made possible by a grant from The National Vitamin Foundation, was held at the Medical College of Virginia, Richmond. The program included:

"Relationship between Pteridines and Other Heterocycles (Purines, Riboflavin, and Vitamin B_{12})—Helene Nathan, Haskins Laboratories, New York

"Effect of Folic Acid Metabolites in Megaloblastic Anemias"—Dr. Wayne Rundles, Duke University, Durham, North Carolina

"Nutrition and Disease: Folic Acid Studies in the Mouse"—Dr. George M. Briggs, National Institute of Health, Bethesda, Maryland

"Effect of Pyridoxine Deficiency on Higher Nervous Activity of Dogs and Rats"—Drs. W. Horsley Gantt, Bacon F. Chow, and Maria Simonson, The Johns Hopkins University, Baltimore

"Vitamin Interrelationships in Heme Synthesis"—Dr. Dan A. Richert, State University of New York, Syracuse

"Studies on the Role of Intrinsic Factor in Vitamin B_{12} Absorption, Transport, and Storage"—Dr. Victor Herbert, The Mount Sinai Hospital, New York City

Interns Graduate. Five dietetic interns recently completed their year's work at *Ancker Hospital,* St. Paul. Diplomas and Ancker Hospital pins were presented to the following graduates:

Rose Baldwin, University of Minnesota, Minneapolis
Rosemary Baron Marrs, College of St. Catherine, St. Paul
Esther Maretich Springman, San Jose State College, San Jose, California
Carole Nakaguma, University of Hawaii, Honolulu
Katherine Pellerin, *Immaculata College,* Immaculata, Pennsylvania

On September 10, commencement exercises for ten dietetic interns were held at *Freedmen's Hospital,* Washington, D.C. Special speaker of the occasion was Dr. Walter Lester Henry, Jr., Vice Dean, College of Medicine, Howard University. The following graduates received certificates and A.D.A. pins:

Alma C. W. Alexander, Morgan State College, Baltimore
Clara Marie Browning, Michigan State University, East Lansing
Rosetta L. Dent, Hampton Institute, Hampton, Virginia
Alice Bernita Ervin, Texas Southern University, Houston
Robbie Ernestine Graham, North Carolina College at Durham
Betty May Green, Hampton Institute, Hampton, Virginia
Joncier Evelyn Greene, Howard University, Washington, D.C.
Hattie M. Jennings, Hampton Institute, Hampton, Virginia
Eva Mickle, The Agricultural and Technical College of North Carolina, Greensboro
Mary Beatrice Newsome, The Agricultural and Technical College of North Carolina, Greensboro

At *Vanderbilt University Hospital,* six graduating dietetic interns were honored at a luncheon on September 1, at which Dr. William J. Darby spoke on the international outlook in dietetics. Certificates and pins were presented to:

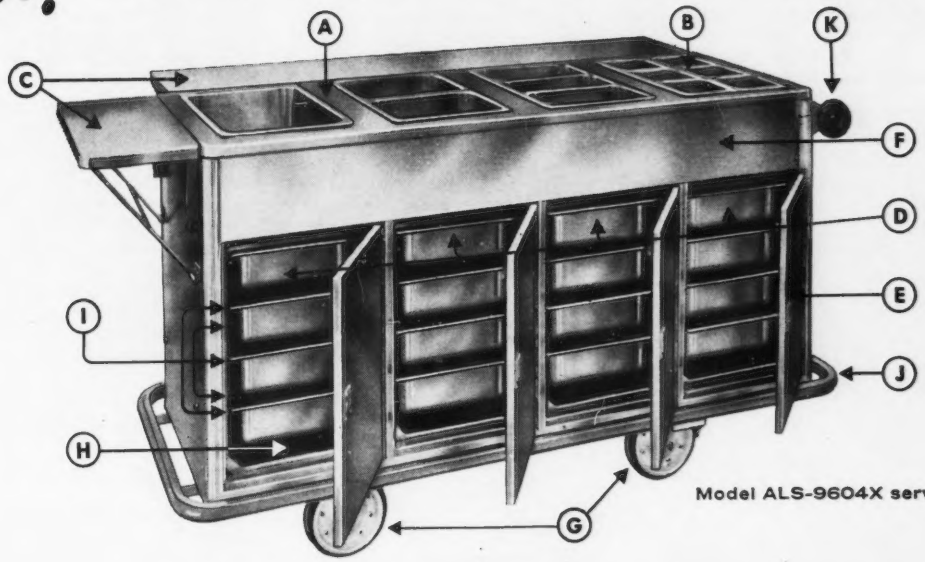
Dorothy Jane Brown, University of Alabama, Tuscaloosa
Dorothy Frances Doerr, Mount Mercy College, Pittsburgh
Betty Frances England, University of Alabama, Tuscaloosa
Mary Louise Hanson, University of Idaho, Moscow
Elizabeth Chadwick Russell, Alabama Polytechnic Institute, Auburn
Betty Bagnell Woods, University of Missouri, Columbia

Fellowships for Research in Clinical Nutrition. Fellowships amounting to $200 a month for three months for research in clinical nutrition will be available to medical students through the Council on Foods and Nutrition of the American Medical Association. These Fellowships are to be sponsored by The Nutrition Foundation, Inc., in cooperation with the Council, and are named in honor of Dr. Virgil P. Sydenstricker, the 1958 recipient of the Joseph Goldberger Award in Clinical Nutrition. Deadline for applications this year will be December 15. Further details may be obtained from the Council on Foods and Nutrition, American Medical Association, 535 North Dearborn Street, Chicago 10.

Potato Flake Production. This fall, six manufacturers (twice as many as last year) will convert more than 4 million bu. potatoes into potato flakes, a new dehydrated mashed potato product. The process involves applying fresh mashed potatoes to the surface of a heated drum, where they are dried in a few seconds and removed in a parchment-like sheet, which is then broken into flakes and packaged. By simply adding hot water or milk to the flakes, plus butter and salt as desired, they can quickly be converted back into fluffy mashed potatoes the equal of the fresh product in taste and texture. The process was developed in the laboratories of the USDA's Eastern Utilization Research and Development Division in Philadelphia.

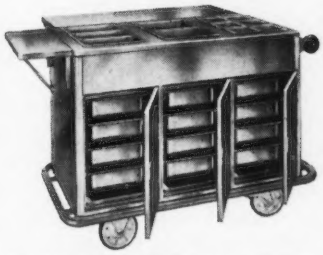
Peanut Butter Being Cheapened. According to the Food and Drug Administration, some peanut butter now appearing on the market contains a material percentage of hydrogenated cottonseed or soybean oil plus artifi-

New! Institutional Bulk Feeder Serves up to 300 Meals per Load!



Model ALS-9604X serves 300

Check these features...each gives you important benefits!



Model ALS-7203X serves 200

Model ALS-4802X serves 125

A TOP DECK OF HEAVY GAUGE STAINLESS STEEL, one-piece *seamless construction* with all *edges rounded* and all interior corners of wells coved. Eliminates knife scraping. Smooth surfaces are easily cleaned.

B FLEXIBLE TOP DECK accepts full complement of square and rectangular, interchangeable insets, up to 6" deep*—lets you choose the top deck arrangement you need.

C DROP-TYPE STAINLESS STEEL SHELVES for convenient, easy tray assembly on large "counter" areas. Fold neatly when not in use.

D LOWER STORAGE COMPARTMENTS ELECTRICALLY HEATED and operated by toggle switch and pilot light on control panel. One compartment left unheated for greater versatility. Each compartment accepts 12" x 20" pans, up to 6" deep.

E COMPARTMENTS ARE FITTED WITH DOUBLE WALLED, INSULATED DOORS, hung on continuous piano hinges, spring actuated, with finger-tip release latches.

F TOP DECK HEATED WITH HI-FLO THERMOSTATICALLY CONTROLLED HEATERS for quicker, more uniform heating.

G FOUR STAINLESS STEEL RUBBER TIRED, BALL-BEARING EQUIPPED 8" CASTERS (2 stationary and 2 swivel-type)—provide quiet, easy maneuverability, and maximum durability.

H EXCLUSIVE BLICKMAN COVED CORNER CONSTRUCTION THROUGHOUT—provides a smooth coved interior surface for easy cleaning.

I STURDY REMOVABLE STAINLESS STEEL PAN RACKS. Racks come out easily (no tools) leaving smooth interior for quick, easy cleaning. Pan slides are set to accommodate up to 6" deep pans.*

J REPLACEABLE CONTINUOUS RUBBER BUMPER is set in heavy stainless steel channel, fully encircling the conveyor—gives greater impact protection. Will not mar walls.

K STAINLESS STEEL PUSH HANDLES mounted on stainless steel brackets, and protected by large donut type rubber bumpers—gives greater impact protection. Will not mar walls.

*Insets and pans available at extra cost.

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Now being used in large public institutions. Bulk feeder line consists of three standard capacities to suit your needs: 300, 200 or 125 meals. Or Blickman can build to meet specific requirements. For name and address of representative in your area and full information, write S. Blickman, Inc., 4012 Gregory Avenue, Weehawken, New Jersey.

Blickman-Built

Look for this symbol of quality

BLICKMAN

FOOD SERVICE EQUIPMENT

cial flavor. Such an addition means a greater fat content of the product and less protein. The added oils are not identified on the labels by their common or usual names as required by law. George P. Larrick, Commissioner of Food and Drugs, comments that it is doubtful that this product is what is generally understood by the consumer or the trade to be peanut butter. Field inspectors of the FDA are, therefore, gathering information on the current understanding of the meaning of the term to determine whether regulatory action is required.

Frozen Applesauce. A new addition to the long list of frozen foods available to the homemaker may soon be applesauce with an attractive pink color. At the Maine Agricultural Experiment Station, applesauce from McIntosh apples has been frozen successfully. The most attractive samples, as to color, have been obtained by freezing applesauce made of half red-skinned and half pale-skinned apples. When frozen, the pink becomes more intense, but on thawing, it returns to its original color. Flavor and texture of the sauce were rated very good.

Three types of freezer containers were tested: transparent and semi-transparent plastic cups and fiberboard cups holding 16 fluid oz. The most attractive were the semi-transparent cups, according to the judges.

Handling Eggs. Eggs begin to lose their good flavor if taken from the refrigerator and allowed to warm up to room temperature, according to USDA home economists. They recommend that eggs be brought from the store to the home refrigerator as quickly as possible and that they be placed in the part of the refrigerator where they will keep coldest without freezing. At mealtimes, only the eggs that are needed should be taken from the refrigerator.

In laboratory experiments, newly-laid eggs which were refrigerated for thirteen weeks and then soft-cooked qualified as Grade-A eggs as to flavor. Eggs refrigerated for twenty-five weeks still gave Grade-A flavor to baked custards and angel food cakes.

For FAST toasting—

to avoid food service delays . . .

there's no substitute for

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Savory's automatic toasting operation makes food service faster, easier and more economical because there's no wait for loading—no delay in toast delivery.

In hospitals, schools and institutions where rigid meal schedules must be maintained, a Savory toaster *keeps pace with demand* by providing 6 to 12 slices of fresh hot toast every minute.

—and Savory toasters are sturdy and easy to clean, too. Made of gleaming stainless steel, they'll serve you for years.

Ask your Kitchen Supply Dealer for details, or write:

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120 Pacific St., Newark, N. J.

News of State Associations

Alabama Dietetic Association. November 7 an 8 were the dates of the fall meeting of the Alabama Dietetic Association held in Tuscaloosa. The program included:

"Nurse-Dietitian Role in Patient Care"—a symposium with Elizabeth Cleino as moderator

"Areas of Mental Health"—Dr. Arthur Dohlstrom

"Self-Chosen Diets during Pregnancy and Health of Newborn Infants in Birmingham, Alabama" — Lorene Smith

"Nutrition in Research"—Dr. S. Richardson Hill

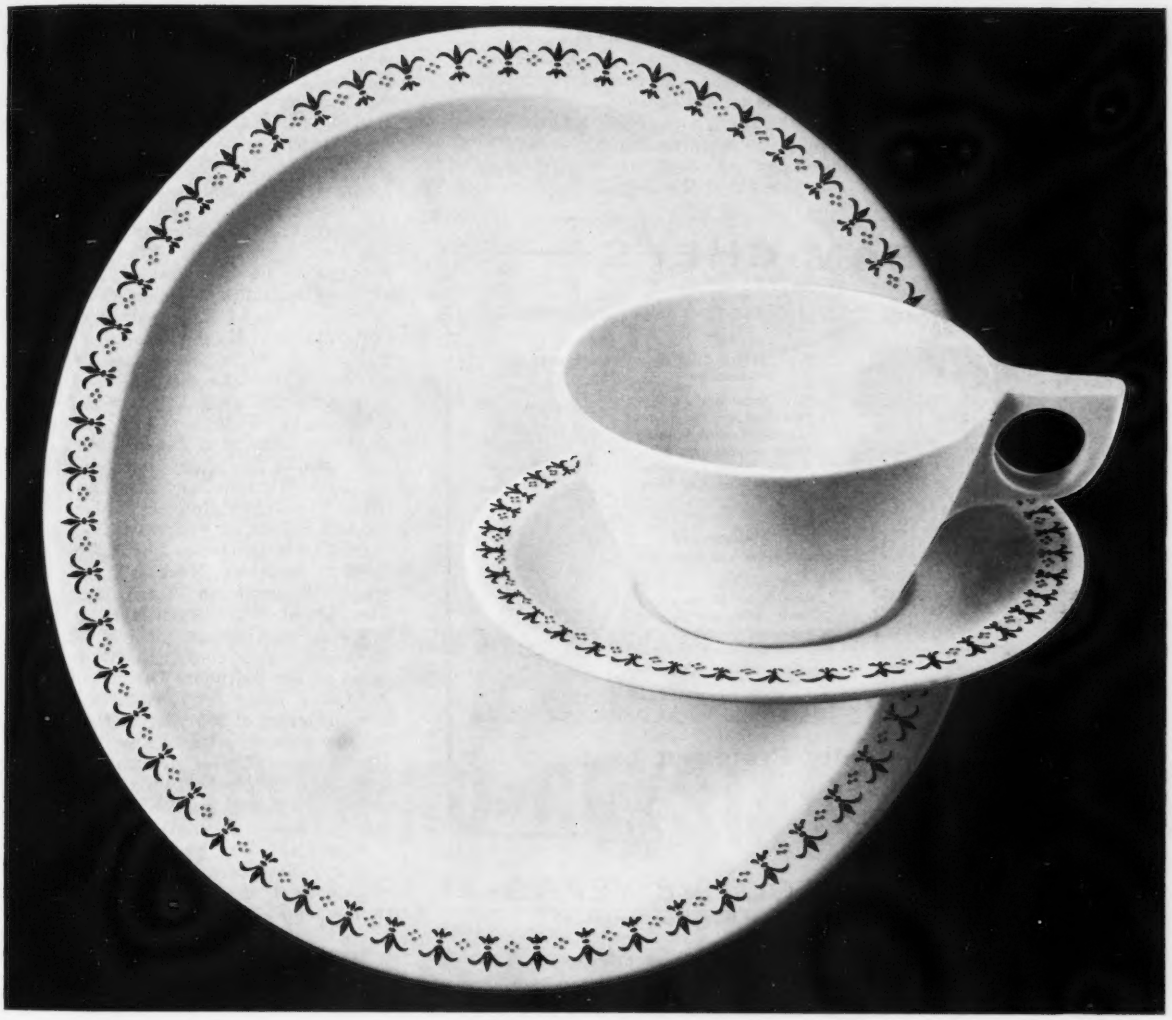
The Alabama Dietetic Association this year was the proud grantee of a T. V. DuBois Foundation Dietetic Internship Award. The recipient of the award, chosen by the Association's Scholarship Committee, is Martha Joyce Bailey, University of Alabama, who is interning at the U.S. Public Health Service Hospital, Staten Island, New York.

Other honor students who have received recognition by the Alabama Association in the form of a one-year subscription to this JOURNAL are: Janice Jernigan, University of Alabama; Marguerite Johnson, Alabama Polytechnic Institute; Martha Lindsey, Alabama College; and Ada Margaret Thomas, Tuskegee Institute.

California Dietetic Association. Dietitians of the *Sacramento Region* have cooperated with the Sacramento County Heart Association in working out a program of offering low-sodium menus for heart patients who eat in restaurants. Ten luncheon and ten dinner menus, compatible with a 300-mg. sodium diet, were prepared. These menus, together with a list of suggestions for preparing low-sodium foods were mailed to the chefs of seventeen cooperating restaurants. A few

No other dinnerware offers all the advantages of

REGAL DECORATED



Fleur-De-Lis

Plastics Manufacturing Co. dishes are the finest on the market because of correct design, craftsmanship and material. There is a piece for every purpose, every piece is designed to stack perfectly for conservation of space and ease of handling, and every piece has the exclusive contour foot for complete drainage and fastest air drying. No other dinnerware is molded to PMC's specifications of quality which ensure greatest resistance to breakage as well as the finest surface finish. And PMC dinnerware is made of melamine for durability, for economy and for beauty.

"Fleur-De-Lis" is the newest PMC pattern. It gives beauty beyond expectation for the subtle enhancement of every meal.

See "Fleur-De-Lis" at your favorite dealer's or write
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days later, the dietitian visited each restaurant to discuss the program with the chef. Most of the chefs kept the menus very simple, although a few obtained a low-sodium cookbook to offer more variety. The dietitian offered to change the menus periodically and to prepare special menus for holidays and other occasions. The plan received considerable publicity during Heart Month in the local newspapers and on radio and television. Six weeks after the program started, reports indicated that some restaurants were receiving much more patronage from patients on low-sodium diets than others. These restaurants, constituting about two-thirds of those who started the program, have continued to offer this service to their customers.

Kentucky Dietetic Association. On October 31 and November 1, the Kentucky Dietetic Association met in Berea at the Boone Tavern. The program featured two papers: "Cultural Patterns in Hospital Food Services" by Dr. Lillian Pearsall, Associate Professor of Rural Sociology, University of Kentucky, Lexington; and "Nutrition in Egypt" by Latifi Saliba of Lebanon who is studying nutrition at Berea College.

Dietitians of the Education Section are working on a course for food service supervisors' training, while work of the Diet Therapy Section involves cooperation with two groups of nurses in preparing a diabetic manual for children. The project of the Community Nutrition Section for the last year has been the distribution and sale of the booklet, "Food Fallacies." In Food Administration, members are working on a project, "Better Management through Control of Labor Expenses."

Officers of the Kentucky Association for 1958-59 are: President, Dr. Abby Marlatt, University of Kentucky, Lexington; President-Elect, Mary Lou Vaughn, Louisville; and Secretary, Martha Ann Bowling, Louisville.

Maryland Dietetic Association. Eight meetings to be held in Baltimore are planned for the Maryland Dietetic Association this year. The first, on September 15, featured a talk on "Newer Attitudes in Science" by Dr. James P. Issaces, Assistant Professor of Surgery, The Johns Hopkins Hospital. New officers were installed in November. On December 8, members will enjoy a Christmas party and instruction in "Table and Tray Decorations" by Charles Eckhardt. "Semantics" will be the subject discussed by Dr. Jack Wexler, Instructor in Medicine, The Johns Hopkins University Medical School, in February.

In March, Dr. Irene Diggs, Department of Sociology, Morgan State College, will speak on "Anthropology." The subject of the April meeting will be "Food and Drugs," which will be discussed by Richard E. Williams, Chief of the Baltimore District of the Food and Drug Administration. The final program of the year in May will be concerned with "Feeding the Handicapped Child," which will be presented by Dr. Wilson Grubb, Assistant Professor of Pediatrics, The Johns Hopkins Hospital.

A project last year of the Diet Therapy Section was the compilation of a booklet on dietetic foods, which is now available for distribution.

Missouri Dietetic Association. St. Louis was the scene of the annual meeting of the Missouri Dietetic Association on November 14 and 15. The program included:

"Recent Food Product Developments —Their Implications for Management of Food Services"—Dr. John H. Litchfield, Department of Food Engineering, Illinois Institute of Technology, Chicago.

"Trends in Dietary Management of the Modern Hospital"—Ruth M. Kahn, Dietetics Specialist, American Hospital Association, Chicago

"Atherosclerosis"—Dr. Albert B. Eisenstein, Director of Medicine, Jewish Hospital, St. Louis

"Interpreting the Diet Order"—Joan Ellison, Barnes Hospital, St. Louis; and Mabel Tomlin, University of Missouri Hospital, Columbia

"Infant and Childrens' Feeding"— Dr. Robert L. Jackson, Department of

STEAM-CHEFS

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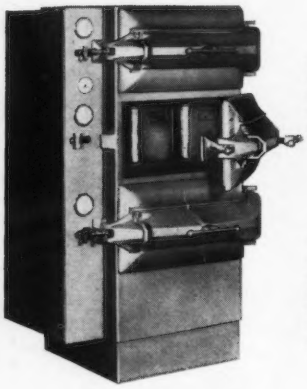

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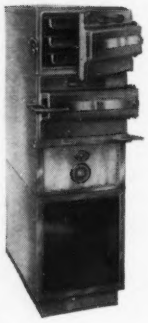
For smaller requirements or as auxiliary unit. With one or two compartments, with or without floor stand. Gas or electric-fired, or direct connected.



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The FINEST kitchens take advantage of the many benefits of steam cooking . . . and the majority choose the finest steam cookers . . . STEAM-CHEF and Steamcraft. Send for list of current installations.

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Pediatrics, University of Missouri School of Medicine, Columbia

"Trends and the Dietitian"—a symposium

"Fads and Facts in Nutrition"—Dr. Philip L. White, Secretary, Council on Foods and Nutrition, American Medical Association, Chicago

New Jersey Dietetic Association. Officers for 1958-59 of the New Jersey Dietetic Association are: President, Irma Louise Walker, St. Mary's Hospital, Passaic; President-Elect, Marie Morgan Abromaitis, East Orange; Treasurer, Marian Maltese, St. Joseph Hospital, Paterson; and Secretary, Carolyn Sebastianelli, East Orange.

New York State Dietetic Association. Officers elected to guide the New York State Dietetic Association in 1958-59 are: President, Helen G. Ingerson, Eastman Kodak Company, Rochester; President-Elect, Margaret Grainey, Genesee Hospital, Rochester; Treasurer, Helen Cassidy, St. Luke's Hospital, New York City; and Treasurer, Marian Jones, New York State Department of Health, Albany.

North Carolina Dietetic Association. In September, the Education Section of the North Carolina Dietetic Association and the State Department of Trade and Industrial Education cosponsored a workshop for teaching nutrition to practical nursing students. The program included: "The Teacher and Communications"; group discussions on "Why Teach Nutrition to Practical Nursing Students?" and "Food Facts and Fantasies"; and panel discussions on "Methods of Teaching" and "Nutrition Goals and Competencies Expected of the Licensed Practical Nurse."

The twenty-fifth annual meeting of the North Carolina Dietetic Association was held in Greensboro on November 13 and 14. The program featured:

"Nutrition Research in Maternal Health"—Dr. Cecile Hoover Edwards, Professor of Nutrition, Agricultural and Technical College of North Carolina, Greensboro

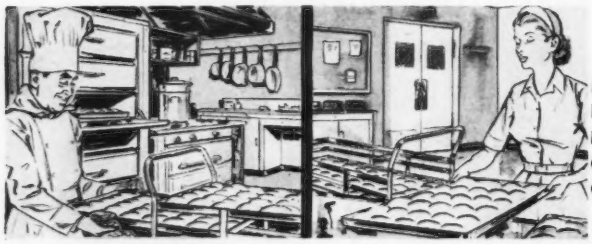
"You and Your Community"—a panel discussion moderated by Frances MacKinnon, School of Public Health, University of North Carolina, Chapel Hill

New officers of the North Carolina Association are: Marjorie Knapp, Duke University, Durham; President-Elect, Winston Osborn, Guilford County Health Department, Greensboro; Treasurer, Rachel Ferguson, North Carolina State College, Raleigh; and Secretary, Gwendolyn K. Farrier, North Carolina School Lunch Program, Raleigh.

Oregon Dietetic Association. A joint committee of the Oregon Dietetic Association and Oregon representatives of the National League of Nursing has been activated for the purpose of studying the nutritional experiences of student nurses. Three meetings have been held to study the methods of nutrition education currently being pursued in the Portland area, and a report has been sent to the joint committee on the national level with the recommendation that the teaching dietitian be an integral part of the curriculum planning committee of the faculty of the school of nursing.

Winner of the T. V. DuBois Foundation Scholarship in Dietetics for Oregon this year is LaDonna Sandahl, a graduate of Oregon State College who is interning at Mills College, Oakland.

South Dakota Dietetic Association. The ninth annual meeting of the South Dakota Dietetic Association was held October 31 and November 1 in Pierre. Emphasis of the program was on civil defense and emergency mass feeding. Members were "briefed" on federal and state civil defense affairs by Gen. Theodore Arndt, Commander, South Dakota National Guard and Civil Defense, and observed a school evacuation and mass feeding demonstration sponsored by the Pierre Civil Defense Council. A report on the Women's National Civil Defense



NEW

J&J

6-SHELF

SPEEDY BAKED GOODS TRUCK

DESIGNED TO HANDLE 18" x 26" BUN PANS

Height (to top of handle)..... 42"
Length..... 29"
Width..... 23"

Model 1390.

For fast, easy handling of freshly baked buns or pastries, nothing compares with this new J & J six-shelf Nesting Truck designed to handle six standard size 18" x 26" bun pans. With these light-weight, smooth-rolling, maneuverable units you can run circles around large and often cumbersome storage trucks. You simply slide 'em in and wheel 'em away. It's easier, faster, safer . . . and, when not in use, the trucks nest compactly, take up a minimum of valuable kitchen or pantry space.

Units are available in Model 1389 with stainless shelves and painted chassis or in all stainless Model 1390. There is a 3" clearance between shelves at the handle end and 17" clearance between the floor and the bottom shelf. Truck is mounted on four J & J double ball bearing swivel casters with 5" ball bearing wheels having neoprene tires.

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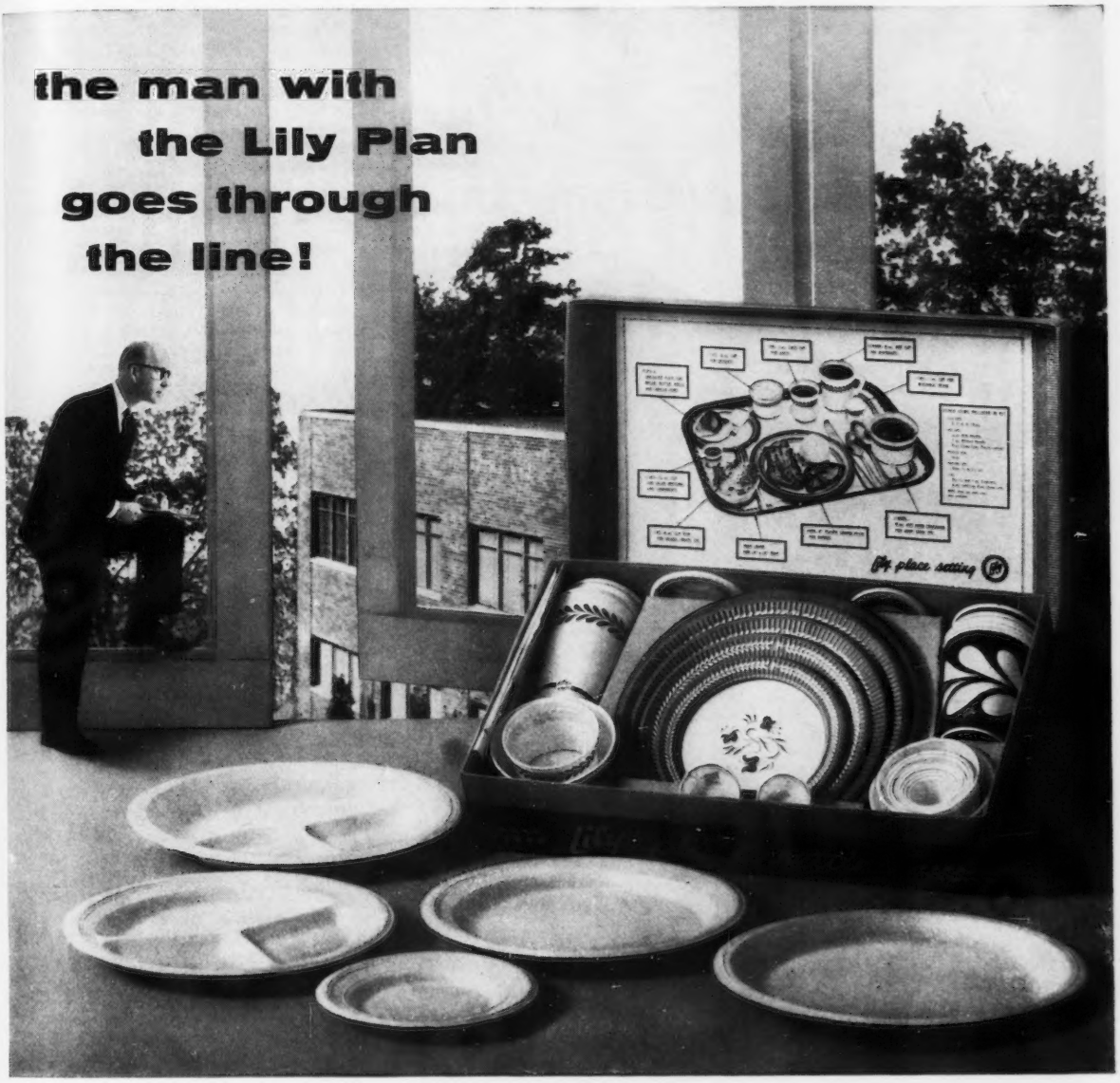

Result: New products that offer new economies

These recent Lily developments help you speed up service—with less effort, at less cost.

The Man With The Lily Plan is tackling a problem—so he can help drop your costs to a minimum. Such unrelenting efforts have provided volume feeders with a cost-conscious team of new products, plus important improvements on proven products.

For example, Lily* place settings (shown in kit) offer all kinds of economies—from soup to nuts. They're completely disposable, thus eliminating labor costs involved in scraping, washing, drying and storing. They also eliminate need for dishwashers, expense of maintaining them, and additional cost of hot water, soap and detergents.

Simplify service, lighten trays

Lily place settings provide a matched service for nearly every food and beverage on your master menu. They require less storage space, eliminate the expensive problem of breakage, cut time and effort involved in bussing. Lily paper service also simplifies serving and after-service.

Volume feeders of all kinds use Lily place settings to save valuable time, and to reduce fatigue caused by carrying heavy, dish-laden trays.

New Lily exclusive

Lily offers three sizes of molded smooth plates: 6, 9, and 10 in., plus two sizes of compartmented molded plates, 9¼ and 10¼ in. The 9¼ in. plate, made by Lily alone, has that extra rigidity needed for confident one-hand handling. Its "full depth" compartments control portions and costs better, keep foods and companion juices and gravies in place. 10¼ in. plate has same features but allows for larger portions.

Free samples

Lily is constantly striving — through research, through product development, through product improvement — to find new economy measures, new convenience features. We'd be happy to show you how specific findings apply to your operation. We'd also be happy to send you free samples of the products above. Just write: *Lily-Tulip Cup Corporation, 122 East 42nd Street, New York 17, New York.*

**T.M. Reg. U.S. Pat. Off.*

Council, which met in Washington in September, was made by Olive Berg, State Civil Defense Director of Women's Activities. A panel on "Everyone Is Civil Defense," also led by Mrs. Berg, considered police protection and direction, fire protection and hazards, home preparedness, and Red Cross—Civil Defense Services. A second panel discussion was concerned with "Hospital Preparedness for Nuclear Attack Emergencies," with panelists representing the professions of medicine, nursing, dietetics, and welfare. Dr. Edwin Shaw, Jr., Chief of Radiological Service, University of South Dakota Medical School, spoke on "Effects and Treatment of Radioactive Fallout on Food and Water." Two films, "Facts about Fallout" and "Operation Welcome" were also shown.

Dorothy L. Bovee, A.D.A. Chairman of Disaster Feeding and Civil Defense Planning, attended the meeting as the national Association's representative.

Virginia Dietetic Association. This year's recipient of the John G. Kolbe Award of the Virginia Dietetic Association was Ellasue Carr, Head Dietitian, Lewis-Gale Hospital, Roanoke. The award is given for excellence in both professional and community work. Presentation was made at the state's meeting in the spring in Staunton.

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REVERE SHAPE
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You'll be amazed how compactly the Revere Shape fits on tray or table. In fact, no shape takes less tray space. And this lovely Cloverton pattern will delight you. Your choice of several two-color combinations.
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At the same meeting, scholarship winners in the state were announced. Beulah Dillow, a student at Madison College, received both the Margaret McDonald Memorial Scholarship of the Virginia Dietetic Association and the T. V. DuBois Foundation Scholarship granted to the Virginia Association. Three Graduate Scholarships of the Virginia Dietetic Association were also awarded for the first time. They went to Virginia Irons, Cafeteria Manager with the Richmond City Schools who is studying at Virginia Polytechnic Institute; Mary Kelly, Teaching Dietitian, Medical College of Virginia, who is attending Columbia University; and Dorothy Rowe, Assistant Professor of Home Economics, Madison College. The Graduate Scholarships are awarded on a biennial basis.

Washington State Dietetic Association. On November 14 and 15, the Washington State Dietetic Association met in Walla Walla. The following program was presented:

"Esthetics of Food Service Design"—Robert J. Burman, A.I.A., Architect of Seattle

"Chemicals in Foods"—H. W. Schultz, Ph.D., Department of Food and Dairy Technology, Oregon State College, Corvallis

"Oral Administration of Drugs in the Treatment of Diabetes"—Robert W. Cox, M.D.

"Functions of Your University Hospital"—an exhibit prepared by the University of Washington School of Medicine

The Diet Therapy Section of the Washington State Association has completed work on the menus and recipes for low-fat diet, the low-cholesterol diet, and the low-fat, low-cholesterol diet for the Washington State Heart Association and has turned them over to its Nutrition Committee for printing. Preliminary work has now been started on preparing the Washington State Diet Manual.

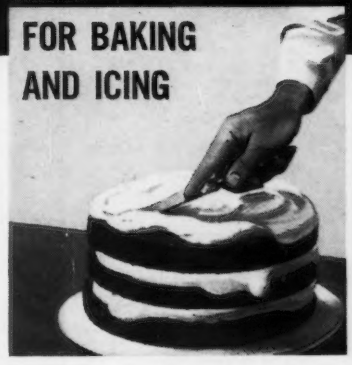
A joint committee of the Washington State Dietetic and Home Economics Associations has prepared a booklet, "Food Facts Versus Fads," which has been published as Extension Circular Number 292 and is available from the County Extension Agents throughout the state.

In September, the *Tacoma Dietetic Association* held a pot-luck supper, at which recipes were sold for 10 cents each, the proceeds to be applied to the Association's scholarship fund. Major Jo Lydon, Madigan General Hospital, spoke on "New Developments in Army Food," and Capt. Helen Bjerke reported on "90 Days in Peru." In October, Florence Quast, as guest speaker, discussed "New Trends in Buying."

Obituary

Mary Gianotti Meisenbach. The A.D.A. office has been notified of the

PRIMEX IS TODAY'S GREATEST ALL-PURPOSE SHORTENING!



In thousands of restaurants, pure, all-vegetable Primex is the one and only shortening used. It's because Primex is all you need for every shortening purpose. The extraordinary plastic range of Primex, plus its remarkable uniformity and dependability, make it equally ideal for all types of frying . . . for baking . . . for cooking. And for every use it delivers economical performance in addition to enhancing the eating quality of the foods you serve. Try Primex! See for yourself how it can help you operate more economically, satisfy more customers and build profits!

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There's Something "Special" About This

Tender, selected beef — roasted to perfection and carefully processed to retain its inimitable flavor — is the vital ingredient in famous Custom Special Beef Flavor Soup Base.

This exclusive flavor assures the delicious beef "heartiness" needed for authentic beef gravies, stews, meat pies and soups. It is the reason why only Custom can put "he-man" beef goodness in specialty dishes that would otherwise be flat and dull-tasting.

Custom Special Beef Flavor Soup Base is never thin or watery. It *always* sparkles with robust beef flavor.

To be sure you have real zip in your menus — be sure you have Custom Special Beef Flavor Soup Base on your kitchen shelf.

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rich beef flavor

Custom

FOOD PRODUCTS, INC.

701 N. Western Ave., Dept. JA-88

Chicago 12, Ill.

VEGETABLE SOUP

50 servings — 5 ounces each

INGREDIENTS

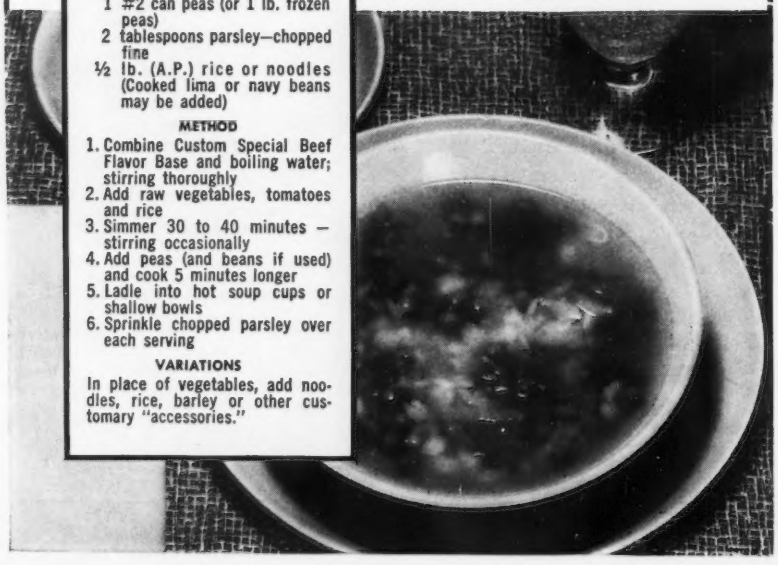
1-1 lb. jar Custom Special Beef Flavor Base
3 gals. boiling water
1 lb. diced carrots
1½ lbs. celery — diced
½ lb. onions — chopped fine
1 #10 can tomatoes
1 #2 can peas (or 1 lb. frozen peas)
2 tablespoons parsley—chopped fine
½ lb. (A.P.) rice or noodles (Cooked lima or navy beans may be added)

METHOD

1. Combine Custom Special Beef Flavor Base and boiling water; stirring thoroughly
2. Add raw vegetables, tomatoes and rice
3. Simmer 30 to 40 minutes — stirring occasionally
4. Add peas (and beans if used) and cook 5 minutes longer
5. Ladle into hot soup cups or shallow bowls
6. Sprinkle chopped parsley over each serving

VARIATIONS

In place of vegetables, add noodles, rice, barley or other customary "accessories."



death of Mary Gianotti Meisenbach, dietitian at Kankakee State Hospital, Kankakee, Illinois. Mrs. Meisenbach had been a member of the Association since 1943, following completion of a dietetic internship at the University of Michigan Hospital.

Isabelle Stewart. Word has been received of the death in September of Isabelle Stewart, a charter member of The American Dietetic Association and of the New Jersey Dietetic Association. Miss Stewart was for many years, prior to her retirement, Chief Dietitian, Essex County Sanitorium, Verona, New Jersey. She had resigned her membership in the Association in 1953, following her retirement.

Helen Wachob. The A.D.A. office has received news of the recent death of Helen Wachob of Denver, a member of the Association since 1953. Miss Wachob was a graduate of Cornell University and completed a dietetic internship at Cincinnati General Hospital.

News of Products and Services

Nine recipes using Pillsbury's Chef Style Potato Flakes are being offered to the institutional trade by *The Pillsbury Company.* Variations include stuffed frankfurters, mashed potato salad, potato soup, potato puff balls, potato pancakes, baked potatoes in foil boats. Chantilly potatoes, potato salmon patties, and potato salmon casserole.

Amcoin Corporation has introduced a new line of "Economy Coffee Urns." Some of the quality features incorporated in the economy line are: a newly designed leacher for flavor extraction; exclusive all-glass interior; Monel exterior and insulating tank; precision thermostatic controls with adjustable settings that brew and hold coffee at proper temperatures; and a self-syphoning system and spray head which automatically sprays the correct amount of water at the proper brewing temperature over the ground coffee to assure complete saturation for perfect infusion and flavor extraction.

The new *DuBois Co., Inc.,* manufacturing plant at East Rutherford, New Jersey, was formally dedicated on November 5. *DuBois* is a manufacturer of seventy-five institutional and industrial cleaning compounds.

Designed to meet the requirements of the National Sanitation Foundation, *Hotpoint Co.* has engineered and manufactured a new and improved, low-cost "3-B" accessory for heavy duty fryers, ranges, and ovens, at a cost reduction of almost 50 per cent. The "3-B" wheeled equipment is so named because it permits thorough cleaning beneath, between, and behind each device in the cooking bank. Mobility is achieved by swivel casters

The right cup of coffee pleases customers...means multiple profits for you

WHEN YOU SERVE Chase & Sanborn coffee, you satisfy your customers' desires for fine coffee, at economical preparation cost to you. This means profits from satisfied customers and profits from every cup of Chase & Sanborn coffee.

Quick quote from Mr. James K. Dobbs, Dobbs House Restaurants—"We have served our guests with Chase & Sanborn Coffees for many years. The constantly high quality of your coffees produces the same fine taste at all times, and gives us a quality control from the moment each bag is opened in our kitchens."

Call on Experience. You can profit from the coffee experience supporting your Chase & Sanborn man. Get in touch with him today. He'll help you serve coffee at its best...

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THE ROASTERS OF FANCY MARK

Watch for Chase & Sanborn's "SHE DESERVES TO EAT OUT—at Least Once a Week" advertising campaign in Time, Newsweek, The New Yorker, Holiday and Reader's Digest.

at the rear of the unit and rigid casters, with brake, at the front. Depressing the pedals set in the front legs transfers the weight from legs to wheels; thus the unit may be rolled from its station. By elevating the pedals, the brakes are applied, preventing accidental motion.

The Colson Corporation has introduced a new line of food service conveyors for distribution of both hot and cold meals. Individually prepared trays in a centralized kitchen can be be set up for meals for twenty patients. Both hot and cold departments of the conveyor are equipped with removable one-piece, non-tilt aluminum trays. The cold compartments, accommodating trays of varying sizes, are refrigerated by a ¼-h.p. compressor. Hot meals are heated by a 500-watt tubular sheathed heating element. The heated compartment contains seven removable aluminum drawers, each holding service for three. One model provides three 5-qt. beverage containers with individual variable thermostatic controlled heating units. All dispensers are equipped with easily cleaned spigots with insulated plastic handles. The beverage wells are integrated with the top deck. a magnetic latch opens and closes doors. The top deck has a work height of 50 in. Over-all dimensions are 29½ by 72½ in.

"He should have made that 'last one for the road' Continental Coffee!"

Write for free trial package

Continental Coffee

AMERICA'S LEADING COFFEE
for Restaurants, Hotels and Institutions
CHICAGO • BROOKLYN • TOLEDO • SEATTLE

A new type consommé, called "Consommé Rose," has been introduced by *Fearn Foods Inc.*, in its *Le Gout* line of institutional soups. The new product features the delicate color of rose wine, is sparkling clear, and may be served either hot or jellied. When prepared as a hot consommé, it is colorful with julienne carrots and a few peas added. To serve as a jellied consommé, it may be chilled in the refrigerator and garnished with a lemon wedge and parsley sprigs.

A new Chicken Flavor Gravy Base by *Le Gout* is quickly prepared by adding water and simmering 1 min. The new product is made with chicken meat and fat and seasoned with monosodium glutamate and other flavorings. One lb. makes a gallon of gravy.

"Fast-Dry" is the name of the new aerosol rinse injector attachment for mechanical dishwashing machines announced by *John Sexton & Co.* Fast-Dry is a device which injects wetting agent under constant pressure, breaking the surface tension of rinse water. This action allows droplets left on utensils to flow into a thin, even sheet and run off immediately. The new rinse injector consists of an aerosol can containing the wetting agent and a mechanical device which injects the contents of the can into the rinse line. The device is simply constructed with no moving parts, no electrical hook-up, no special plumbing, no switches or valves. It is completely automatic and can be easily replaced in seconds. A monitor gauge indicates when the aerosol can needs replacement. It fits any dishwashing machine.

The Department of Home Economics Services, *Kellogg Company* has released a twelve-page booklet introducing "Corn Flake Crumbs." The product is said to show a decrease in fat absorption when used as a coating for fried foods. The crumbs may be used as breading for meats, patties, croquettes, fish, and chicken; as a binder or extender in meat loaves, stuffings (substitution for usual crumbs on a weight basis is preferred); and for topping casserole dishes (baking temperatures may need to be reduced, since the crumbs are already brown). Suggested uses in breads, cookies, desserts, appetizers and confections are given, as well as four pages of recipes with ingredients for 20 or 100 servings.

Crescent Metal Products, Inc., has added a new horizontal shelf rack, Model 270 Series, to its line of aluminum food service equipment. With a choice or combination of three types of shelving, the shelves can be lifted off without removal of screws or bolts. Corrugations provide the advantages of solid sheet and wire rod shelves plus up-end sanitary storage, evaporation of condensation and drip, and complete air circulation. They retard spillage and drip from shelf to shelf, do not trap or absorb odors, and do not chip or peel when used in high humidity atmospheres. Designed for use as mobile shelving in cold rooms,

You can make news with *smokeless frying*

For your type of operation, be sure you choose the right "high-frying" Wesson shortening

If you want to stock a *frying* shortening that also bakes to perfection.

Choose HEAVY-DUTY mfb *because:*

- The "shortening with the high smoke point" stands up under heavy frying without breakdown.
- Has wide plastic range, scoops out easily.
- Fries *and* bakes to perfection.
- It's all vegetable.

If you need a special shortening for continuous volume frying.

Choose Keap *because:*

- The "for frying only" shortening was originally developed for potato chippers—the heaviest fryers of all.
- It's a hard shortening with high stability for continuous frying.
- It's all vegetable.

If you want your fried foods to have an appetizing sheen, and taste as delicately delicious as your salads.

- Have a large "take-out" business.
- Concentrate on convenience.

Choose Wesson Oil *because:*

- This consumer favorite gives a quality flavor to all foods.
- Take-out orders keep appetizing appearance even when cool.
- It's so easy to pour for deep fry, grill use, salads or baking.
- It's all vegetable.

Shortening is no sideline with us . . .
that's why Wesson "takes the smoke out of frying" three ways.

The Wesson Oil People

Makers of Heavy-Duty MFB . . . Quik-Blend . . . Keap . . . Meedo . . . Quiko . . . Task

coolers, and freezers or as draining and drying racks, they may also be used as any other solid shelves. Model 270-4 has four shelves, each 17 in. apart; Model 270-3 has three shelves with 26½-in. spacing. The bottom shelf of each is 12 in. from the floor.

Also, offered by *Crescent* is a new all-aluminum, lightweight "Butterfly" rack, Model C-2209, with removable and adjustable tray support arms in 1½-in. centers. The tray support arms of aluminum tubing are removed by pulling out of the socket supports formed by the corrugated frame upright. They may be adjusted and replaced on 1½-, 3-, 4½-, 6-, 7½-, or 9-in. centers by pushing them back into the corrugated sockets until seated. Suggested uses are: for cooling of baked goods, for holding purposes in coolers and cold rooms, and for dough retarding.

Plastics Manufacturing Company has introduced "Regal Decorated" as its first patterned line of melamine dinnerware. The design features the regal fleur-de-lis in dubonnet and cadmium orange on bone white. All plates and bowls are decorated. Each has heavy duty rolled edges and a self-draining contour base for fast drying and stacks in minimum space.

A combination of the juice of deep sea clams, tomato juice, and spices is blended in a new appetizer called "Clamato." It is offered by *McCormick & Co., Inc.*, as its newest food product for the institutional field. Clamato may be used as an ingredient in bisques, soups, chowders, bouillons, salads, sauces, casseroles, stews, bouillabaisse, and cocktail spreads. Quantity recipes are available on request.

A fifteen-page, illustrated booklet, titled "A Chemical Approach to Controlled Wash Pressure," has been published by the Research and Development Division of *Economics Laboratory* to introduce two new commercial dishwashing compounds, "Score," and "Event." Both compounds have foam or aeration inhibiting properties. Studies have shown that the wash pressure in many dishwashing machines drops during continuous operation, largely due to soil build-up in the wash water. A machine may have an 80 or 90 per cent soil removal factor when the wash tank is freshly filled, but only 20 or 30 per cent after 2 or 3 hr. of steady operation. The fall-off is primarily due to foaming and aeration which causes loss of liquid level in the wash tank and produces an aerated wash solution with less impact force against a dish than a solid stream. It can be readily detected by watching the wash spray or listening to the sound of the spray against the machine wall. Egg, powdered milk, and flour are important hard-to-remove soil offenders. The problem of lowered wash pressure depends on the type of machine, type and amount of food soil, and frequency of wash water change. All these factors are discussed in the text of the booklet with diagrams and charts giving the results of the study. "Score" and "Event" have been formulated to answer the problem in the dishwashing compound itself. "Score" is a compound with high detergency and metal protection properties; "Event" is an alkaline compound especially designed for heavy-duty, high-speed dishwashing operations.

The slim size Saltines by *Keebler Biscuit Company* have a new shape. They are rectangular and smaller than the ordinary 2-in.-square style. They are expected to prove popular for hors d'oeuvres, cheese, spreads, and children's jelly-and-cracker snacks.

Allmetal Food Equipment Corp., announces the addition of a salad dessert case to its line. This new unit, approved by the National Sanitation Foundation, features gravity return, self-closing doors. Bottom runners are eliminated and overhead tracks assure that the sliding doors will automatically close tight each time. The newly designed superstructure has a 7-in. service shelf. Model No. 2235-24S is available in remote or self-contained models, with or without water stations. It is also available in double service. The unit may be used in a back-bar or counter line-up with *Allmetal's* equipment stands, refrigerated wall bases, or other food service units.

Nu-way Foods Co., announces a new

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Pour LOW SODIUM MILK right from the can to patient's glass. Save time because there's no mixing. And each glass is assured the same natural consistency. LOW SODIUM MILK can be used whenever a sodium restricted diet is indicated.
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WHY SHOULD THE VITAMIN C CONTENT OF FRUIT AND VEGETABLE JUICES BE STANDARDIZED?

Because nutrition reports disclose that —

- **Vitamin C deficiencies exist throughout the country***
- **Scurvy has not disappeared from the United States***

Proof of deficiencies among adults and children. You should know these facts!* Diet surveys from Maine and Vermont, New York, Illinois, New Mexico, Oregon, West Virginia, and Texas show a definite pattern of inadequate vitamin C intake. These studies covered grade school and high school children, college men and women.

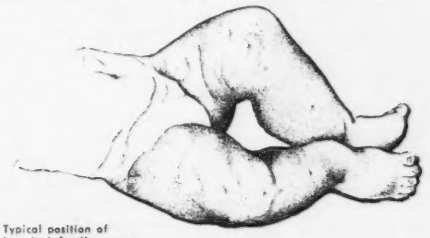
Spongy, swollen gums symptomatic of scurvy.

From these studies* of dietary habits and physical conditions there is considerable proof that many of the children and adults covered by survey have actual, physical symptoms of vitamin C deficiency.

Infantile scurvy. Scurvy* occurs, even today, among infants who are artificially fed. Fortunately the disease may be cured by the administration of vitamin C. How much more sensible it is to prevent it by supplying these bottle-fed infants with the daily allowance of 30 milligrams of vitamin C as recommended by the Food and Nutrition Board of the National Research Council for children under one year of age.

Symptoms of infantile scurvy are fretfulness and fear of being touched.

These bottle-fed infants, unless receiving a pediatric prescription containing vitamin C, are largely dependent on supplemental ascorbic acid which they receive from fruit or vegetable juices. Unless fortified with vitamin C many of the processed juices may not supply these babies with adequate quantities of this essential element.



Typical position of legs in infantile scurvy.

What can be done? Because of the increasing evidence that American diets are deficient in vitamin C, leading nutrition experts believe that processed fruit and vegetable juices, on which the public is so reliant for its supply of this necessary vitamin, should contain the "Vital Ingredient."

The Vital Ingredient of any processed fruit or vegetable juice is a *dependable* and *adequate* supply of vitamin C. You can give your juice this ingredient by *standardizing its vitamin C content*. The processing is simple and the new low cost of ascorbic acid makes juice standardization more attractive than ever.

With ascorbic acid available *by the tons* at extremely modest cost fruit and vegetable juices can have a standardized vitamin C content for the better protection of the nation's health and well-being.

*Statements are based on documented reports. References on request.

Illustrations after photographs in The Vitamins in Medicine by Bicknell and Prescott, Third Edition, published by Grune & Stratton, Inc., New York.

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There is not a piece of equipment which will so radically expedite and improve your kitchen operation as an automatic food waste disposer. Shown above is one model of the Gruendler 400 Series. This series, our large-capacity disposers, is able to handle, with the greatest of ease, the waste and scraps of 500 to 2000 meals per setting, plus waste from food preparation.

There is a wide range of Gruendler Disposers . . . economical, yet highly efficient models with the capacity of handling 100 meals or more per setting. Gruendler Disposers are supplied ready for attachment to electric connection, water line and sewage drain.

Why not write for Bulletin No. 124 showing our complete line? If you'll mention your maximum number of servings per hour, our engineers will be most happy to recommend the right model for your consideration.

Gruendler Food Waste Disposers are built and backed by the manufacturer of Reduction Machinery since 1885.

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and improved line of portion servings. Clear plastic cups and lids with plastic undercoating to eliminate any possibility of evaporation contain ⅝ oz. jams, jellies, or honey and are available with private imprints.

"Tang" is the new instant breakfast drink introduced in October by *General Foods*. A crystalline, orange-colored powder which is instantly soluble in cold water, the Tang drink is characterized as "not a juice, not a soft drink." To make a 4-oz. glass of Tang, ½ c. cold water is added to 2 rounded tsp. Tang powder. The resulting glassful of Tang is a nutritious drink which, it is claimed, provides 300 per cent of a child's minimum daily "requirements" for ascorbic acid and twice the adult's requirements. It is also a good source of vitamin A, supplying 45 per cent of the child's daily "requirements" and 35 per cent of the adult's. The Tang powder requires no refrigeration. It will be sold in grocery stores in two sizes—a small jar which makes 12 glasses of Tang, and a large jar from which 24 glasses can be made.

A colorful folder from *General Foods* describes its eight test kitchens and explains the purpose and the accomplishments of each. In the "Future Products Kitchen," new foods are tested before being marketed. The nutrition, variety, and taste appeal of the main course is the special interest of the "Entrée and Vegetable Kitchen." In the "Baking Kitchen," cakes, pies, cookies, and brownies by the thousands are baked during experiments. New ways of using basic ingredients are tried in the "Recipe Kitchen." From the "Hotel and Restaurant Kitchen," foods for institutional uses are developed, as well as adaptions for home use from professional tricks. The "Creative Cookery Kitchen" works out imaginative ways to combine food colors and textures and originates distinctive serving suggestions. A panel of experienced "tasters" determines the merit of a new product or recipe in the final test which takes place in the "Tasting Kitchen."

The *Pillsbury Company* is offering a new "on-the-job" training scholarship to be awarded each year to an outstanding home economics major graduating from college that June. The recipient of the Pillsbury Award will take the position of Associate Director of the Pillsbury's Junior Home Service Center for a year and will receive, in addition to her salary, an initial cash grant, the two totaling $5200. At the end of the year as Associate Director, she will be offered another position with The Pillsbury Company or a grant for graduate study in home economics. Six runners-up will also receive cash awards. The Junior Home Service Center, first announced last June, will work for and with teen-agers. Its activities will be planned to meet the special needs and problems of young people making their first experiments in homemaking.

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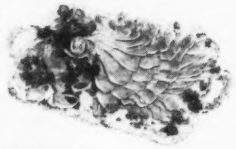

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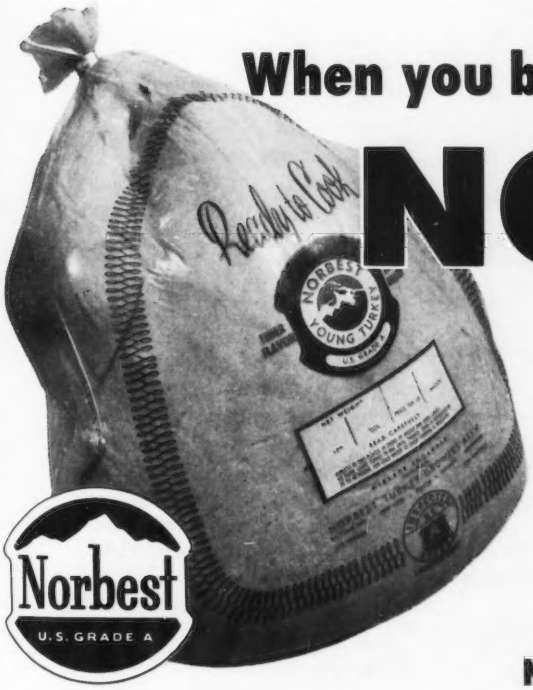

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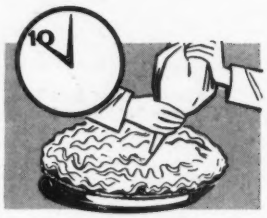

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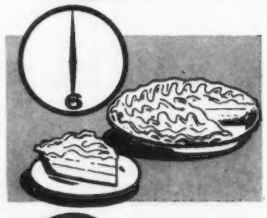

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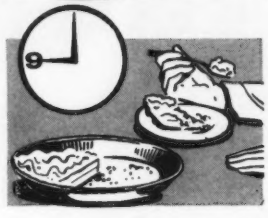

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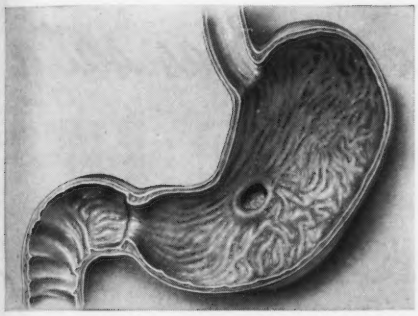

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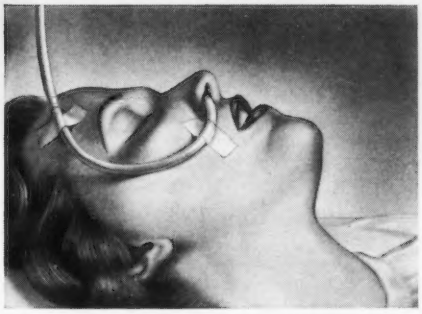

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365 calories; 33 gm. protein; 0.2 gm. fat; 58.4 gm. carbohydrate; 15 mg. iron; 1 gm. calcium; 7000 IU vit. A; 2.4 mg. thiamin; 4.3 mg. riboflavin; 22 mg. niacin; 80 mg. ascorbic acid; 550 IU vit. D.

MAIL COUPON FOR ONE LB. CAN

FREE

THE DIETENE COMPANY, MD 128
Highway 100 at W. 23rd St.
Minneapolis 16, Minnesota

Please send me *free* a 1-lb. can (regular $1.98 retail size) of Meritene protein-vitamin-mineral supplement.

Name_____

Address_____

City_____ Zone___ State_____

YOU CAN *TASTE* THE EXTRA QUALITY IN... *Gumpert's*

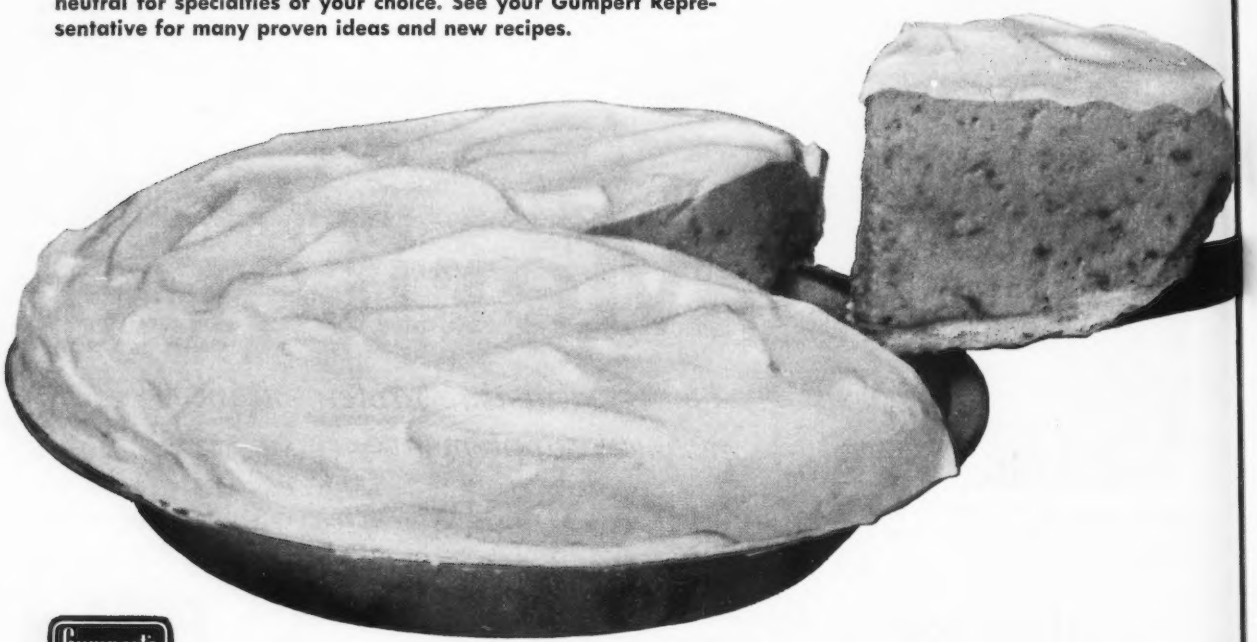
The Chiffon that's firm and smooth as satin

...builds pie reputations for many a kitchen!

Bite into fluffy coolness—enjoy rich flavor and texture that's firm yet tender—that's Gumpert's Chiffon! It tastes like the masterpiece of an old-fashioned home cook; yet it's so simple to make... with a profit as high as the filling itself!

See how quickly and easily it's prepared! Each unit of Gumpert's Chiffon Pie Filling is packed into two parts—a *base* you quickly cook into a creme filling... plus a *whip* which is beaten up, and folded into the warm creme base. That's all—simply pour into pie shells. You get a chiffon that doesn't water down... stays light and fluffy... and looks every bit as good as it tastes!

Gumpert's Chiffon is a profit delight too, one of the lowest cost pies you can make. Six favorite fruit flavors, plus chocolate and neutral for specialties of your choice. See your Gumpert Representative for many proven ideas and new recipes.



Gumpert's
STRAWBERRY CHIFFON

ONE OF 300 TESTED GUMPERT FOOD SPECIALTIES

GUMPERT'S CHIFFON PIE FILLING

S. Gumpert Co., Inc. • Jersey City • Chicago • San Francisco • Houston

For quantity cooking, baking ...even whipping...and no special recipes needed!

New from Carnation... a milk discovery that cuts costs up to 50% ...maintains highest quality recipe results!

The secret is Carnation Instant and a new Self-Enriched Formulation Plan. Now it's easy to make a new kind of milk product – a higher solids nonfat milk that is 20% richer than ordinary nonfat or skim milk. Moreover, a Portion Control Package makes it even easier. Simply add 1 lb. of Carnation Instant to enough water to make 1 gallon of finished product.

No special recipes needed. Carnation's crystal form dissolves instantly...never settles out...never lumps. Always ready for use in your *regular* recipes.

Thousands of restaurants and institutions have already *proved* that the new Carnation Instant Self-Enriched Formulation Plan cuts milk costs up to one-half and maintains quality recipe results. Rush coupon below for full details.

Look at These Comparisons!

Comparison of Solids in 3 Forms of Milk

	New Carnation Instant Self-Enriched Formulation	Fresh Skim Milk	Fresh Whole Milk
Nonfat Solids	11.7%	9.0%	9.0%
Fat Solids	.09%	.075%	3.5%
Total Solids	11.79%	9.075%	12.5%

Available in Portion-Control (8) 5-Lb. Bags, Convenient 25-Lb. Box and Economy 50-Lb. Sizes

For more detailed information on this amazing nonfat milk formulation, mail this handy coupon today!

Carnation Co., Dept.KT-128, 5045 Wilshire Blvd., Los Angeles 36, Calif.

I would like more information on the new Carnation Instant Nonfat Dry Milk Self-Enriched Formulation Plan.

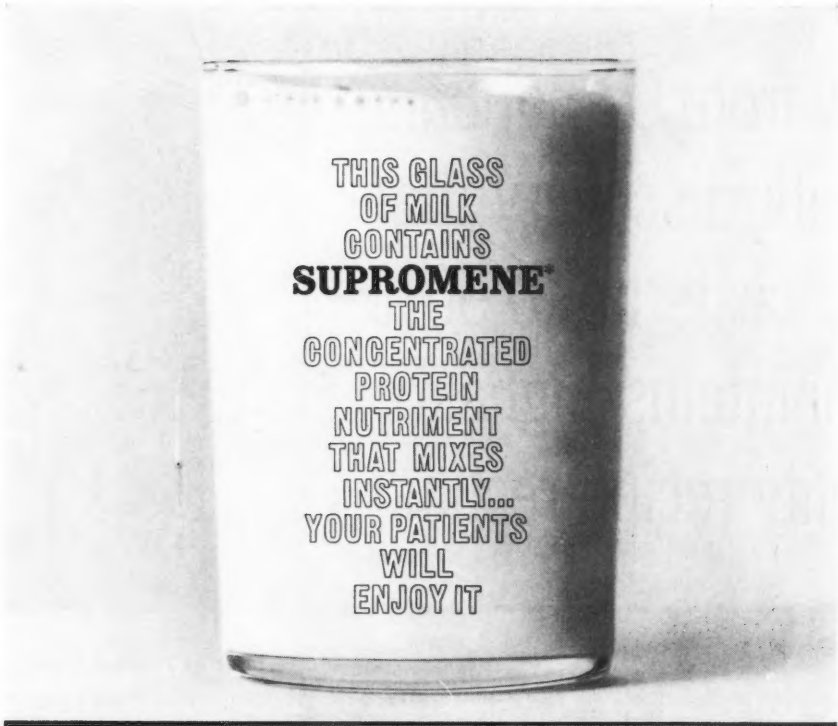
Name_____
(Please Print)

Institution or restaurant_____ Position_____

Address_____

City_____ Zone____ State_____

Right now we (do) (do not) use nonfat dry milk in recipes. (Please check one.)



SUPROMENE is a special therapeutic product which is useful where physicians and dietitians consider high protein, vitamins and minerals important for nutritional needs in medical, surgical and obstetrical conditions.

Drug Products Division of
The E. Berghausen Chemical Co.
4538 West Mitchell Ave., Cincinnati 32, Ohio

free 1 pound can

Please send me a 1 pound can of new SUPROMENE Instant Mix

Name_____

Address_____

City_____

Zone_____ State_____

*TRADEMARK

Three servings daily provide—

	3 oz. SUPROMENE in 24 oz. Whole Milk	3 oz. SUPROMENE Contains:	24 oz. Whole Milk Contains:
Protein	**54.5 Gm.**	29 Gm.	25.5 Gm.
Vitamin A	**7218 USP U.**	6048 USP U.	1170 USP U.
Vitamin B_1	**5 mg.**	4.74 mg.	.27 mg.
Vitamin B_2	**5 mg.**	3.75 mg.	1.26 mg.
Vitamin B_6	**2 mg.**	1.66 mg.	.34 mg.
Vitamin B_{12}	**4 mcg.**	.03 mcg.	3.97 mcg.
Vitamin C	**100 mg.**	91 mg.	9 mg.
Vitamin D	**615 USP U.**	600 USP U.	15 USP U.
Vitamin E	**5 I.U.**	4.5 I.U.	.5 I.U.
Calcium Pantothenate	**10 mg.**	7.53 mg.	2.48 mg.
Niacinamide	**50 mg.**	49.1 mg.	.9 mg.
Folic Acid	**.1 mg.**	.099 mg.	.001 mg.
Calcium	**1.89 Gm.**	1.03 Gm.	.86 Gm.
Phosphorus	**1.5 Gm.**	.82 Gm.	.68 Gm.
Iron	**15 mg.**	14.4 mg.	.6 mg.
Copper	**1.5 mg.**	1.29 mg.	.21 mg.
Sodium	**.77 Gm.**	.417 Gm.	.354 Gm.
Iodine	**.2 mg.**	.05 mg.	.15 mg.
Fat	**29.1 Gm.**	.6 Gm.	28.5 Gm.*
Carbohydrates	**82 Gm.**	46 Gm.	36 Gm.
Cholesterol	**83.5 mg.**	2.5 mg.	81 mg.*
Calories	**807** **	309	498

*Nonfat milk 24 oz. reduces the fat values to .6 Gm. and the cholesterol to 3. mg.
**Nonfat milk 24 oz. reduces the calories to 570.

Amino acid content of three servings —									
Arginine	Histidine	Isoleucine	Leucine	Lysine	Methionine plus Cystine	Phenylalanine plus Tyrosine	Threonine	Tryptophane	Valine
2.00 Gm.	1.29 Gm.	3.41 Gm.	5.73 Gm.	4.14 Gm.	2.2 Gm.	5.84 Gm.	2.45 Gm.	0.80 Gm.	3.70 Gm.

Supromene is prepared from nonfat dry milk, dl-methionine, **malt, sucrose, ferrous gluconate,** copper sulfate, vanillin, vitamin A acetate, irradiated ergosterol, **thiamine mononitrate,** riboflavin, pyridoxine hydrochloride, ascorbic acid, d alpha tocopheryl **acetate, calcium pantothenate,** niacinamide, folic acid and cyanocobalamin.

(25 lb. cans available to institutions)

Thank You

FOR VISITING OUR PLANT

During your recent convention in Philadelphia many of you visited our plant and the wonderful compliments you gave us made us feel very proud indeed.

We enjoyed showing you how the finest refrigerators are made — how it takes the most modern equipment, painstaking research and development to produce our "Refrigerators of Tomorrow" — today.

As you know, our plant is always open for personal inspection by our many friends in the food service industry.

Thank you for being with us and please come back again soon.

Cordially yours,
A. Raymond
President

HOME OF WORLD'S LARGEST MANUFACTURER
OF COMMERCIAL REACH-IN REFRIGERATORS

VICTORY METAL MFG. CORP., PLYMOUTH MEETING, PA.

THE BEST FOOD DESERVES THE FINEST CRACKER

PREMIUM SALTINE CRACKERS* with NEW GOLDEN GLOW

Your customers will appreciate these finer saltine crackers. They're tastier, flakier and snapping crisp. These top-quality crackers are always perfect in our moistureproof cellophane packets.

*Premium Snow Flake Saltine Crackers in the Pacific States

SEND FOR FREE BOOKLET AND SAMPLES

National Biscuit Co., Dept. 27
425 Park Avenue, New York 22, N. Y.

Name .....

Firm .....

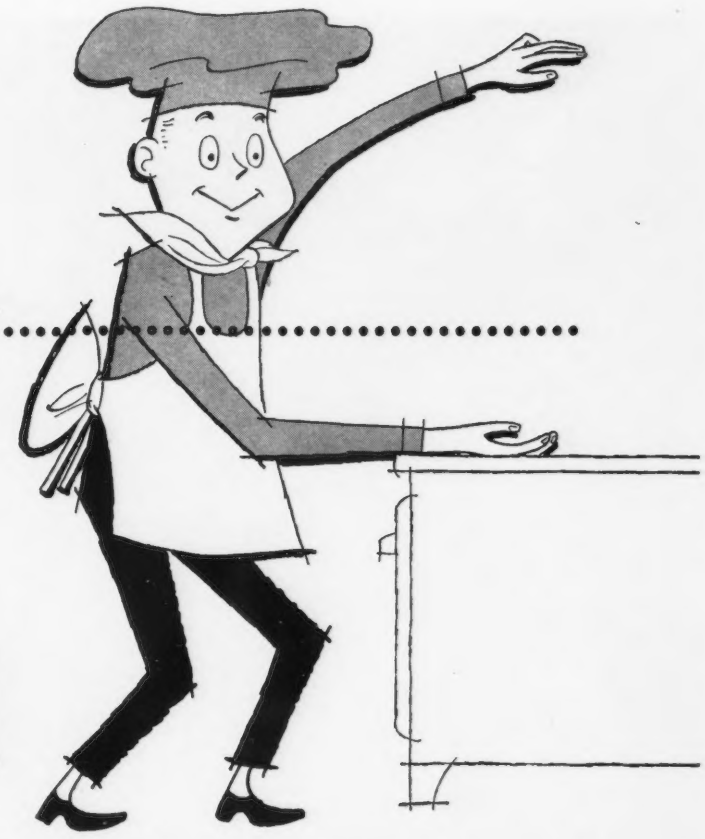
Address .....

City .....

®

Use this cooking space.....

it's free as air!



Double your production per sq. ft.* by using free vertical space with BLODGETT Ovens

If you are using standard range ovens, there's useful cooking space in your kitchen now occupied only by empty air. You've already paid for this space, so why not use it? With Blodgett Vertical Ovens, you can get twice the oven capacity in the same floor area. 70% of your menu can be cooked in one place by one unit that cooks, bakes and roasts at the same time . . . *and does all three better.* Your chefs will save steps and stooping, too . . . stay fresher, more efficient. Select the Blodgett Oven to fit your needs now. Just call your Kitchen Equipment Dealer today!

**For example, Blodgett Oven #959 has the capacity of 4 standard range ovens.*

BLODGETT *Ovens*

12 Lakeside Avenue, Burlington, Vermont

Oven Specialists for over 100 years

24 MODELS IN 7 FINISHES

Illustrated: #959 — Capacity Six Roast Pans, Thirty-six 10" Pies, Six 18"x26" Bun Pans. Finish shown: Stainless front, standard black sides.

In Canada: Garland-Blodgett, Ltd., 41 Medulla Ave., Toronto 14, Ont., Canada

COMPARE ▶ Only Blodgett gives you **all** these quality features!

Thicker Insulation Only Blodgett has full 4" insulation for lower fuel costs, cooler kitchens.

All-Welded Construction Only Blodgett welds frame and walls into a single unit for longer life.

Counterbalanced Doors Sturdier, yet they open with just a flip of the fingers.

Automatic Lighting . . . with 100% safety shut-off pilot.

- Streamlined
- Enclosed Piping and Flues
- Off-Floor Design
- Adjustable Legs
- Steam Jets
- Chrome Handles
- Flanged Decks

"We like the way GAS meets fluctuating demands"

— Boston's Carney Hospital

Sister Monica, supervisor, and Michael Kenney, chef, at Boston's Carney Hospital, are more than satisfied with their new Gas equipment.

"Gas provides the speed we need for our type operation. The heat is easily controlled, and the over-all economy of operation and the low maintenance cost have more than justified our choice of Gas equipment. The ability to meet rapidly fluctuating demands together with the complete dependability of Gas has also contributed to our satisfaction with our present equipment."

The Gas equipment at Carney includes 2 fryers, 3 ranges, a broiler and a double section roast oven . . . all Vulcan. The kitchen is planned to feed 1000 patients and hospital personnel when operating at full capacity.

Carney Hospital has found Gas equipment efficient and dependable. In hospital after hospital from coast to coast, you'll find Gas providing similar results. If you're planning a new kitchen or remodeling or expanding your present one, call your Gas Company Commercial Specialist and discuss the economies and results modern Gas equipment provides. *American Gas Association.*

Meat...

and its fat-protein calorie ratio*

For every calorie of fat provided by the average American dietary only 0.3 calorie of protein is provided. The quality of this protein ranges from poor to excellent.

On the other hand, cooked meat as usually eaten supplies from three to five times this number of protein calories in relation to the calories derived from its fat. The protein of meat is invariably of high biologic quality.

	Calories from Fat	Calories from Protein
in the average American dietary	1	0.3
in beef rump roast	1	1.27
in beef flank steak	1	1.42
in lamb leg roast	1	1.55
in pork loin chop (lean portion only)	1	1.36
in cured ham	1	1.04
in veal cutlet (lean portion only)	1	1.40

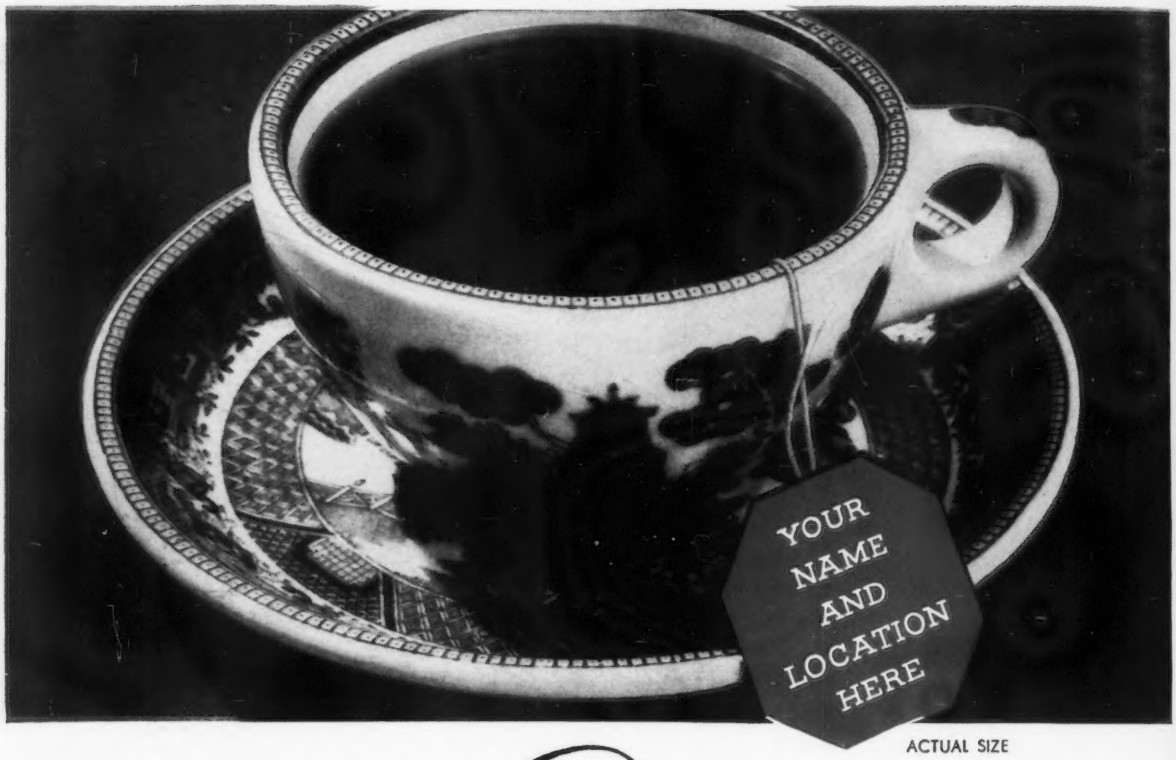
The high protein yield of meat exceeds that from any other main dish food in man's diet. The amino acid composition of meat protein closely approaches the quantitative proportions needed for effective biosynthesis of human tissue.

Meat—the chief source of top-quality protein, B vitamins, and minerals in the American diet—is also an excellent vehicle for nutritionally valuable fat, the amount of which is readily controlled by trimming and by selection of cuts.

*Leverton, R.: The Fat, Protein, and Calorie Value of Cooked Meats. Proc. 9th Research Conf. sponsored by the Council on Research of the American Meat Institute, University of Chicago, March 1957.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago...Members Throughout the United States



ACTUAL SIZE

NEW! *Personalized* FOIL TEA TAGS

Match book size

An unusual and effective new form of advertising for your establishment . . . Sexton Personalized Foil Tea Tags!

These new foil tea tags are now available in small enough quantities for use in individual hotels, restaurants and clubs as well as chain organizations.

Our new match book size foil tea tags provide as much advertising space as match book covers. This gives you twice as much space for your message as an ordinary tea tag.

The services of our Art Department are available to you to provide your message and design in the colors of your choice. The distinctive colored foil backgrounds make your personalized tag more effective than ever before.

Our superb flowery Darjeeling blend tea surpasses ordinary commercial teas in flavor and will bring you repeat business and compliments. It is a tea with which you can be proud to associate your name.

See your Sexton representative for complete information or write:

John Sexton & Co., P.O. Box JS, Chicago 90, Ill.

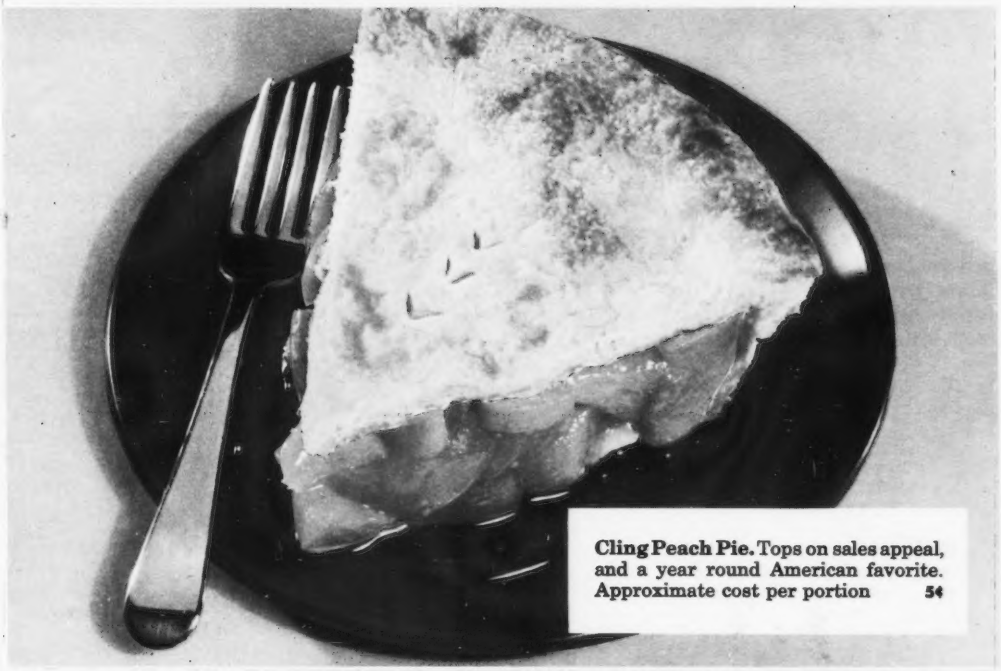
Sexton *Quality Foods*

DIAMOND ANNIVERSARY
1883 • 1958

P YOUR MEAL CHECKS—KEEP COSTS LOW—WITH CLING PEACHES FROM CALIFORNIA

Golden cling peaches from California are a proven favorite. They're showy, impressive, delicious. Ready to use anytime. Waste free. Easy to portion control. And so easy to present to your customers with the full-color FREE display material showing many tempting dishes. Ask your cling peach sales representative about them, or write: **Cling Peach Advisory Board, 32 Maple Street, Summit, N.J.**

Fiesta Cling Peach Salad. Here's a low-calorie winner, always first place on the salad menu. Free clip-ons and posters.
Approximate cost per serving **16¢**



Cling Peach Pie. Tops on sales appeal, and a year round American favorite.
Approximate cost per portion **5¢**

FORMULAS ON REVERSE

TEAR OUT FORMULA CARDS ALONG PERFORATED LINES FOR YOUR FILES

Volume and profit are up with

CLING PEACHES FROM CALIFORNIA!

Cling peaches are America's favorite canned fruit! Golden, delicious, and so very practical for you to use! Low cost, waste free, easy to handle. Feature cling peach specialties *daily!*

FREE: New full color menu clip-ons and display pieces featuring Fiesta Cling Peach Salad and Cling Peach Pie. Ask your cling peach sales representative, or write: **Cling Peach Advisory Board, 32 Maple Street, Summit, N.J.**

FIESTA PEACH SALAD

1 recipe fruit cocktail Gelatine Cubes (below)

7 heads lettuce

12 pounds cottage cheese

1 #10 can sliced cling peaches

makes 48 salads

Arrange lettuce on chilled plate. Place one #12 scoop of cottage cheese on lettuce. Surround with 4 cling peach slices and 6 fruit cocktail Gelatine cubes.

Fruit Cocktail Gelatine Cubes. Dissolve 1½ pounds strawberry Gelatine in 1 gallon hot water and canned fruit juice. Chill until slightly thickened. Fold in 2 qts. (1 #10 can) drained fruit cocktail. Pour into pans to depth of one inch. Chill until firm. Cut in 1-inch cubes with knife dipped in warm water. Makes 1½ gallons or 48 servings of 6 cubes each.

CLING PEACHES Sunniest way to brighten any menu!

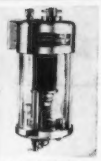
TESTED FORMULA FOR CLING PEACH PIE FILLING

Ingredients	Quantity	Method
Cling peach slices	1 (No. 10) can	Drain in colander over measure.
Syrup from peaches (add water if needed)	1 quart	
Sugar	1 pound	Combine with 1 lb. sugar and salt in saucepan. Heat to boiling.
Salt	⅛ oz.	
Sugar	1 pound	Mix remaining 1 lb. sugar thoroughly with 4 oz. starch. Slowly stir into boiling mixture. Cook until clear and thickened.
Starch (or 40-mesh tapioca)	4 oz.	
Lemon juice	2 tbsp.	Remove from heat and stir in lemon juice, almond extract and egg color. Mix drained peach slices in carefully. Cool thoroughly before using.
Almond extract	¼ tsp.	
Egg color	Few drops	

Yield: 6 pies (9")

EASY TEAR OUT RECIPE CARDS FOR YOUR FILE

Stop spots



KLENZADE "FLASH-DRI" AND RINSE INJECTOR

Steps up performance on any spray-type dishwashing machine . . . speeds drying, eliminates spots, makes subsequent washings easier and better. Most economical feeder and additive in the field. Compact, simple, accurate, efficient injector — no moving parts.

KLENZADE HC-88 DISHMACHINE DETERGENT and MODEL "D" ELECTRIC FEEDER

The "perfect pair" for exceptional detergent performance. Keeps dishes and utensils gleaming — spot-free, stain-free, film-free. Economical, ideal for mixed operations. Machines stay clean, odor-free.

COMPLETE MECHANICAL DISHWASHING PROGRAM

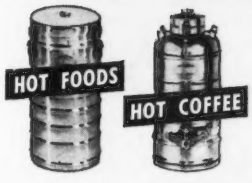
• QUALITY PRODUCTS • SIMPLIFIED EQUIPMENT
• EFFICIENT SERVICE

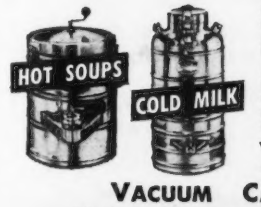
Write for Bulletin No. 1100

KLENZADE PRODUCTS, INC. BELOIT, WIS. KLENZADE

Institutions — Schools — Hospitals — Industrial Plants — Hotels — Caterers — Camps — Air Lines — Government — Civil Defense — Commercial Feeding Operations.

THE "AERVOID" CENTRAL KITCHEN SYSTEM HAS PROVED ITS WORTH IN ALL FIELDS OF MASS-FEEDING





AerVoiDs provide . . .
Sanitary Vacuum Insulation - A positive Health Safeguard!

To-day's "Modern" trend toward centralization of food preparation is a milestone toward Economy, Better Quality and Higher Sanitary Standards.

Into this new picture nothing fits like AerVoiD's Portable, Stainless-Steel, High-Vacuum Insulated, food, soup and liquid Carrier-Dispensers. AerVoiDs alone provide the proven quality and durability to survive under rough usage, spreading their cost over a long period of uninterrupted service.

All AerVoiD Equipment, so indicated in our specifications is "In Compliance" with the sanitary construction requirements of the U. S. Public Health Service Ordinances and Codes.

Write for FREE Literature Kit JAD-01
Our Consulting Service is also FREE

VACUUM CAN COMPANY
19 South Hoyne Avenue, Chicago 12, Illinois

AERVOID REG. U.S. PAT. OFF. *Vacuum Insulated* Hot or Cold Food, Soup, Milk, Coffee and Beverage Carrier-Dispensers

OLSON SUBVEYOR SYSTEM

Magic Carpet that feeds 800 patients in 80 minutes

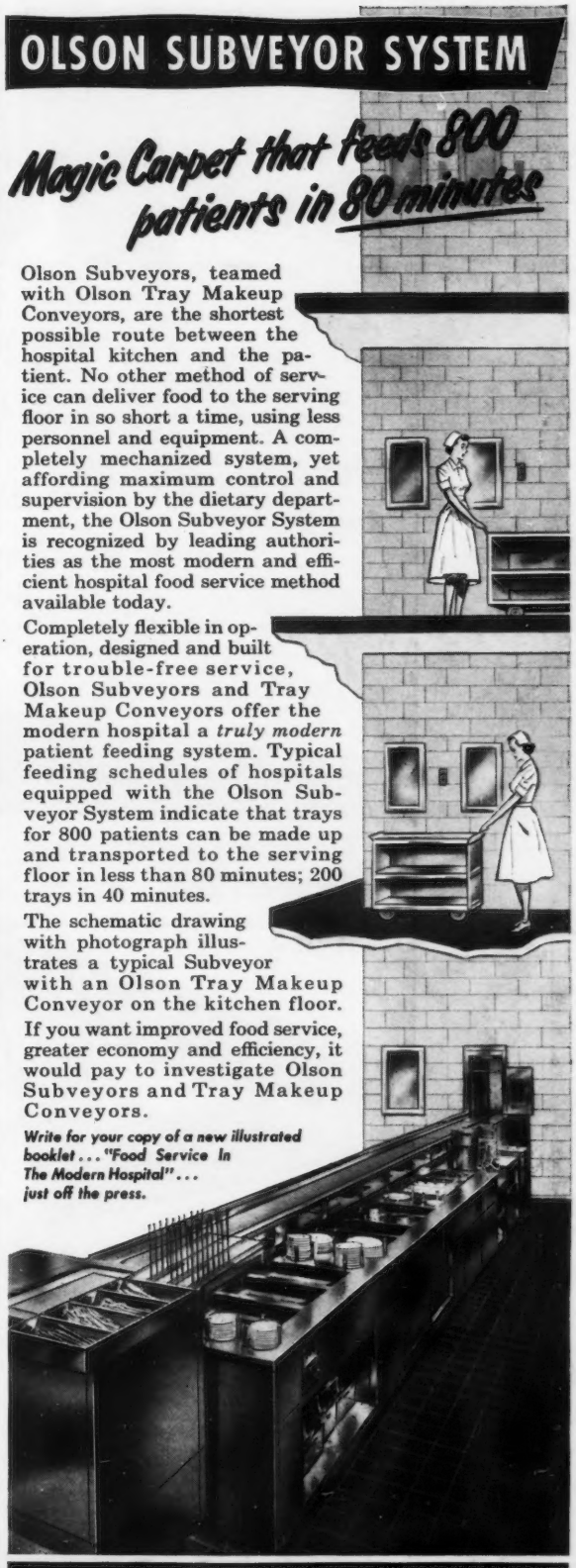
Olson Subveyors, teamed with Olson Tray Makeup Conveyors, are the shortest possible route between the hospital kitchen and the patient. No other method of service can deliver food to the serving floor in so short a time, using less personnel and equipment. A completely mechanized system, yet affording maximum control and supervision by the dietary department, the Olson Subveyor System is recognized by leading authorities as the most modern and efficient hospital food service method available today.

Completely flexible in operation, designed and built for trouble-free service, Olson Subveyors and Tray Makeup Conveyors offer the modern hospital a *truly modern* patient feeding system. Typical feeding schedules of hospitals equipped with the Olson Subveyor System indicate that trays for 800 patients can be made up and transported to the serving floor in less than 80 minutes; 200 trays in 40 minutes.

The schematic drawing with photograph illustrates a typical Subveyor with an Olson Tray Makeup Conveyor on the kitchen floor.

If you want improved food service, greater economy and efficiency, it would pay to investigate Olson Subveyors and Tray Makeup Conveyors.

Write for your copy of a new illustrated booklet . . . "Food Service In The Modern Hospital" . . . just off the press.



OLSON CONVEYORS MANUFACTURED BY SAMUEL OLSON MFG CO., INC
2424 BLOOMINGDALE AVENUE · CHICAGO 47, ILLINOIS

Consistent Idaho Quality!

POTATO SALAD Made with ROGERS QUICK POTATO CHIPLETS

Make your potato salad with the premium Idaho Russet Potato in its most convenient and economical form—Potato Chiplets. Au gratins, hashed browns, scalloped potatoes, soups, chowders, and meat pies can be prepared in minutes! Simple to use! Low in cost! Eliminates potato storage problems!

Available in 6 No. 10 Can Cases or the "Economy Pack"

MASHED POTATOES Made with ROGERS QUICK POTATO FLAKES

Fluffy white flakes make table tempting mashed potatoes in seconds! Whipped potatoes with the rich Idaho Russet flavor and a smooth creamy texture make your meals come alive with goodness. The flavor and texture will last and last on the steam table. Serve the best! Use Rogers Quick Potato Flakes!

NO PEELING! NO COOKING! NO WASTE!

ASK YOUR FAVORITE DISTRIBUTOR TODAY!

Stocks available in principal cities throughout the United States.

Rogers Brothers SEED COMPANY
FOOD PRODUCTS DIVISION
IDAHO FALLS, IDAHO

ROGERS quick POTATO CHIPLETS and POTATO FLAKES are IDAHO RUSSET POTATOES

Any way you look at it . . . you'll choose BOMBAY. From the standpoint of nutrition . . . Bombay affords the minimum daily adult Vitamin-C requirement in every 4-ounce serving. From the point-of-view of taste . . . Bombay's acceptance by leading institutions speaks for itself. And from the angle of economy . . . Bombay's savings are a real budget blockbuster: Only .0154 per 4-ounce serving Grapefruit; only .0169 per 4-ounce serving Orange; only .0162 per 4-ounce serving, Orange & Grapefruit Blend. Sample of Bombay gladly sent without obligation: Write on your letterhead!

BOMBAY ORANGE, GRAPEFRUIT, & BLEND

The H. R. NICHOLSON Co., *Packers*
Kenshaw & Oakleaf Aves. ★ Baltimore 15, Md.

EATING IS FUN— for Older People, Too

Designed to Aid Proprietors of Small Nursing Homes and Residences. Also Adaptable to Home Kitchens

This attractive booklet is a guide to better food and food service in the small institution. Based on normal nutritional requirements for adults, the menu patterns, sample suppers, and pointers on meal planning have their place in any household. Practical ideas for making the work of the manager easier and pleasanter include a weekly marketing guide, hints for economy in buying and storage, and suggestions for serving.

This is a project of the Diet Therapy Section of The American Dietetic Association.

Single copy 50¢.

Five copies $2.00
Ten copies 3.75

Order from:

THE AMERICAN DIETETIC ASSOCIATION
620 North Michigan Avenue
Chicago 11, Illinois

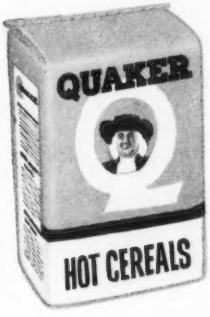
HOT-TIP for breakfast variety...

Pettijohns Rolled Whole Wheat

Quaker Whole Wheat Cereal

Scotch Brand Steel Cut Oatmeal

Quaker Enriched Farina



Quaker Cereals
Now in the "Big Q" Package

Now Quaker's hot cereals come to you in a brand new package—the "Big Q" package. Each of these cereals is specially made for institutional use—adapted to large quantity preparation—designed to maintain flavor and texture on the steam table. Each cereal comes in 5 lb. packages. (Pettijohns—4 lbs.) Each package contains exact directions for *any* number of servings as well as explicit directions for maintaining flavor and texture many hours. You get convenience plus built-in cost and quality control.

The convenience and economy of Quaker's hot cereals in "Big Q" packages makes it easier for you to put variety in your breakfast menu. And the nationally-popular flavor of these cereals always gives breakfast a delightful lift.

Ask your Institutional Food Distributor about Quaker's hot cereals. Or write to the address below.

QUAKER

Institutional Food Sales Department, The Quaker Oats Company, Chicago 54, Illinois

MICHIGAN STATE
WISCONSIN
Serves you right . . . everytime . . . everywhere!
Bolta®
FOOD
SERVICE
EQUIPMENT*
GENERAL
PLASTICS
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THE GENERAL TIRE & RUBBER COMPANY
BOLTA PRODUCTS DIVISION · LAWRENCE, MASS.
*America's most complete line of trays and serving equipment

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